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1. *Kinds of articles accepted.* Contributions of value to medical bibliography, medical librarianship, to the history of medical books, libraries and librarians, and to the history of medicine are solicited. No paper which has already appeared elsewhere will be accepted, nor will simultaneous publication elsewhere be permitted.

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Business correspondence regarding subscriptions and back issues should be addressed to Mr. Charles C. Colby, III, Business Manager, University of Missouri Medical Library, McAlester Hall, Columbia, Missouri. Checks should be made out to the Medical Library Association.

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The Cultivation of the Improbable; Being Random Thoughts on Medical Research*

By R. Keith Cannan, Ph.D., *Chairman*
Division of Medical Sciences, National Research Council
Washington, D. C.

IT IS a high honor to be invited to address so distinguished a gathering. Let me say, at the outset, that I am one of those individuals who is somewhat library-shy. Those serried ranks of ponderous books radiate such an air of austere infallibility as to intimidate me—they make me feel unschooled, almost unfrocked. This being so, you may well imagine my sense of present nakedness as I undertake to expose my thoughts to a company of librarians, to you people who live at ease with books and are their familiars.

When I accepted your invitation I knew that I should have little to offer you. On the other hand since your invitation presented me with the only opportunity that I may ever have to deliver an oration I accepted and I propose to make the most of it.

I begin with a confession. I find myself the prisoner of an ill-considered title. The Chairman of your Program Committee told me that the keynote of your meetings was to be "research" and suggested that I address myself to some aspect of the organization of medical research. To this I readily agreed because, as you shall hear, I have certain rather obstinate views on this subject. By some association of ideas that I can no longer recall, the title that you find in your program seemed to me to be both appropriate and provocative. I now find that I am the victim of my own attempt to be precious.

Mulling over this dilemma it does occur to me that my title may be merely a reflection of the reaction of a physical chemist who has recently been translated from the privacy of his own laboratory to the publicity of the Washington scene. In the short time that I have been here, I have learned that when you open your mouth in Washington—whatever your theme may be—it is assumed that its overtones will be political. And so, possibly, I was contrasting the things that make science tick with the things that make politics. It may be that the proposition that "Politics is the Art of the Possible" was in my mind, in which case I would naturally have countered this with the antithesis that "Science is the Cultivation of the Improbable."

However this may be, you will, I believe, go far enough along the road with

* Read at the 53d Annual Meeting, Medical Library Association, Washington, D. C., June 15, 1954.

me to agree that a creative idea is indeed a highly improbable event. Borrowing from the concepts of chemical kinetics you will recall that the average individual in an assembly of molecules is said to pursue an uneventful history of elastic and uncreative collisions as it noses its way down the line of least resistance to a final state of statistical equilibrium. Only occasionally is some lone molecule so inspired, so fired by imagination, raised to such a white heat of enthusiam as to break through its energy barriers and, for one climatic moment, become transformed—and radiate an idea.

The creator, be he artist or scientist, is the lone molecule of society. He has an awareness for the unexpected, he cultivates the improbable, he is fancy free. He

> "seeks painted trifles and fantastic toys and
> eagerly pursues imaginary joys."

A. N. Whitehead has remarked "almost all new ideas have a certain aspect of foolishness" and consequently we are not surprised to find that our creative mind spends much of its time just fooling around.

Such an individual is eccentric to society. How is he taken care of? One answer is to be found in two articles by a prominent psychiatrist in recent issues of the *American Scientist.* After a lengthy analysis of the fixations and frustrations of the contemporary scientist the author concludes with the following devastating indictment.

> Are we witnessing the development of a generation of hardened, cynical, amoral, embittered, disillusioned young scientists? . . . . . Certainly the idyllic picture of the innocent childlike scientist who lives the life of simple, secure, peaceful, dignified contemplation has become an unreal fantasy. Instead, the emotional stresses of his career have increased to a point where only men of exceptional maturity and emotional stability can stand up for long and remain clear headed and generous hearted under such psychologically unhygienic conditions.

Breathless under the impact of this adjectival barrage I can only gasp that I do not recognize my friends. And you librarians who serve these young scientists, who are their gossips and their father confessors, you will have little patience with such fantasies. One wonders what purpose this verbal extravaganza was intended to serve. My own impression is that society is much more concerned about science than scientists are about society.

One will not deny that society is presently troubled about science. A colleague of mine recently applied for a passport. In the application form opposite the word "occupation" he wrote "scientist." The clerk checking his application shook his head distressfully: "You know," he said "it will be very difficult to process this application if you put that word there. Can't you change it to something else?" Obediently my friend substituted "biologist" for "scientist." The clerk beamed, honor was satisfied, and the passport was delivered promptly.

Science is, of course, under a passing cloud. The scientist is at once a national

asset and a political scapegoat, he is indispensable and yet expendable, he is loyal and yet suspect.

"Yond' Cassius has a lean and hungry look;
He thinks too much; such men are dangerous."

If we discount these present insecurities I am persuaded that society has dealt reasonably with its scientists. It has accepted much on faith. The scientist has expected a modicum of comfort and security and has offered nothing of service in return, except the promise that he would go on fooling around doing the things that the spirit moves him to do. The trouble of our time seems to be that the scientist has passed from an amateur to a professional status and society is having some trouble fitting the professional into his proper place in the economy.

Until the turn of the century science had shared with the arts an essentially amateur position in society. It was the preserve of a self-appointed elite who chose to hold themselves apart from the hurly-burly of the market place. They set up their instruments in their ivory towers and they burned the midnight oil in the quiet of the cloisters. Research was something to be promoted at the philanthropic level. As such it was entitled to a modicum of the surplus wealth which society was willing to invest in culture. But it was a luxury, it was amateur, it was academic.

In the past, government has taken only a fitful interest in scholarship, indeed its concern has been as often to restrain as to cultivate. In the history of our own country the interest of government in science has been largely determined by military needs. The National Academy of Sciences was established by Lincoln to meet the technical situations of the Civil War. The National Research Council was called into being by Wilson to deal with military problems of the first World War. The vast expansion of scientific effort which characterizes the contemporary scene was the product of the recent World War.

Let us look at the situation in the medical field.

Prior to 1942 the medical institutions of the country, other than those supported by industry, were spending less than twenty million dollars annually on research. This came almost entirely from private sources. The government contributed little. Last year the research budgets of these same institutions exceeded 120 million dollars and about two-thirds of this was contributed by the government; about half of the latter, some 40 million dollars, was expended within federal institutions but an equal amount was distributed to academic centers in the form of research grants. From 20 to 120 million in a decade or so is a considerable expansion. How did medicine achieve this embarrassment of riches?

At the beginning of the war the medical investigator, along with his colleagues in engineering and the physical sciences, submitted willingly to almost total mobilization. He left his ivory tower for the big world. It was all rather

exciting. The bright lights were more exhilarating than the midnight oil and the mazes of the Pentagon more thrilling than the quiet of the cloisters.

With the end of the war came the day of reckoning. The scientist found that he had been cashing in on the accumulated reserves of ideas of the past; he had been preoccupied with turning old ideas into implements, with putting old ideas to present service. He had been living on capital. It became evident that unless a number of people returned to the quiet lonely job of producing new ideas the cupboard would soon be bare. And so, willingly, but somewhat jadedly, the scientist returned to his ivory tower. He returned, however, with more expensive habits. He had learned the power of money in research; he had learned that observations accumulate more rapidly if there are platoons of technicians at command. He had discovered that expensive instruments can automatically record data that he had hitherto been content to collect with one pair of hands working far into the night. Luxuries had become necessities and the scientist was losing his amateur status.

The sorry plight of the universities contributed to his dilemma; inflation was increasing costs, endowment income was contracting, and private philanthropy was shifting its interest from medical to social problems. At the same time, society spurred on by the wartime parade of miracle drugs was calling for more and more medical research and was ready to contribute handsomely. And so the money came in, but it arrived through new channels. In the old days it came from the large gifts of the uncommon man embarrassed by his riches and it passed from his vest pocket to the coffers of the university with few strings attached. The university assumed the responsibility of trusteeship. Today the money comes from the small contributions of the common man. In part it is routed through the vehicle of taxation, and in part through voluntary contributions to national societies, such as the National Foundation of Infantile Paralysis, the American Cancer Society, etc. It still reaches the university but it tends to arrive elaborately packaged in restrictive conditions. The responsibility—and this is the burden of my argument—the responsibility of trusteeship has passed from the university to committees in Washington.

You will, I think, agree that those who control the purse strings of research are in a position to exert a profound influence on the attitude of mind of investigators. Control has passed in large measure out of the hands of the universities into those of government and private agencies. A new method of supporting research has become dominant. The bulk of the funds presently available are now distributed in the form of grants-in-aid of specifically defined projects which are submitted by individual investigators to committees of experts in Washington or New York.

In my youth I held a great reverence for committees. With advancing years I have been drawn more and more into their orbit and, to my disillusionment, I have found them composed of tired, puzzled, old fools, like myself. It would seem to be a rule of democracy that it is not until you have reached the age

at which you are no longer able to manage your own affairs that you are considered to be qualified to manage the affairs of others.

Somewhere or other I have read the situation neatly summed up in the statement:

> The best man to decide how research should be done is the man doing it, the next best man is the head of his department. Here we leave the field of best men. The research director is wrong half the time, committees most of the time, and trustees all the time.

The system of project support is familiar to all of you. I make no blanket condemnation. There is a place for planned research. It can take a defined body of knowledge and lay out a set of experiments which will exploit this knowledge to its foreseeable limits. It can take a set of postulates and drive these home to their logical conclusions. It can do this with exhaustive thoroughness, economy, and speed. Within its limitations it is efficient, expeditious, and authoritative. There is a place for planned research in medicine, but there is a place also and a much more important place for the random investigator. The role of project research is to consolidate ground already won; the role of the random investigator is to seek out new worlds to conquer.

In the world of ideas planned research is research in blinders. One cannot chart the unknown. One cannot plan for new ideas because one cannot plan for the unexpected. If there be one lesson the faithful disciple of science learns the hard way it is that new ideas lie down the road of the unexpected. An experiment that fails is the beginning of understanding. However, it takes a brave man to submit a project comprising experiments that are likely to fail.

Much has been said and written on the subject of project research in recent years, although the issue is not new. One of the early commentators was Dean Swift. You may recall the visit of Gulliver to the Academy of Lagado in the continent of Laputa. At the Academy, Gulliver was privileged to inspect the pet project of the Professor of Speculative Learning. This was an instrument designed for the advancement of speculation by mechanical means. The apparatus comprised a large table covered with a network of wires carrying many small blocks of wood on each face of which were different combinations of words. The wires were attached to some 40 handles mounted around the periphery of the table. At each handle a student stood at attention and, at a signal from the professor, cranked his handle vigorously. With each turn of the forty wheels a new combination of words was disclosed and was duly recorded. For six days every week of the year this corps of dedicated investigators was busily engaged in churning out new assemblies of knowledge. The professor foresaw the day when, with the aid of his contrivance "the most ignorant person . . . might write books on philosophy, poetry, politics, law, mathematics and theology without the least assistance from genius or study."

It is evident from the narrative that the Academy of Lagado had surrendered

completely to the fever of projectitis. Indeed the honored title of professor had given place to the name, Projector. The sinister element in the story is that each projector was a lone operator who shut himself up in his own cell in jealous isolation from his colleagues. The institution lacked that communion of scholarship which, since the time of Plato, has been the very spirit of the word "Academy."

It is not my purpose to translate Swift's satiric condemnation to our schools today. Our universities have not yet sold their birthright for a mess of projects. We should, however, remember that genetic effects—that is to say changes in birthrights—require one or more generations in which to expose themselves. I do submit that the present administrative environment of scientists is not a healthy one for the universities. The faculties of our scientific schools continue to teach and to perform their service functions inside their institutions but are looking *outside* for the support of their research, their staff, and even their students. Our schools are becoming increasingly populated by young investigators who find it profitable to lodge in academic halls but who are, in effect, public servants whose allegiance lies without. Our universities are becoming holding corporations for operations over which they have little control—and what is worse for which they feel little sense of responsibility. History has shown that a healthy rural economy does not develop under a system of absentee landlordism. I question whether intellectual productivity will prosper under remote control.

Let me be clear that I am sure that neither those government nor private agencies that support research desire that these things should happen. On the contrary, their efforts have been directed toward maintaining institutional integrity and autonomy, and for this they deserve high praise. The present danger is not that those who give grants are too aggressive but that the institutions that accept the grants are too complacent.

The impulse for research, for what Bertrand Russell has aptly described as "the passion for incomplete discovery," stems from the qualities of curiosity and wonder, from an instinct for the preciousness of ideas. The university is the institution that, over the ages, society has evolved for the express purpose of nurturing these qualities. Its role is to cultivate ideas, to purify ideas, and to discipline ideas. In so doing it gives coherence and power to intellectual progress, thereby readying it for use in the service of man. The community cannot afford to allow the true academic spirit to languish. Only through the universities is the torch handed on as each generation in turn slips out of the race.

The support of academic institutions, the strengthening of the sense of responsibility of institutions poses a problem for the research administrator. Those who take money from the public—be they Congress or the executive of a public philanthropy—assume the obligations of trusteeship. It is their responsibility that the money be spent for the purposes for which the contributing

public desire it to be spent. Superficially, grants in aid of projects protect the trustee in that they document payments made for services rendered—for the prosecution of specifically described studies. In practice, those who administer research funds have had the vision and courage to affirm that one cannot contract for the improbable. Consequently, to a considerable extent, funds have been distributed for the support of the work of good men without too much concern for the experiments that they propose to make. This liberal interpretation of their trust has, in my opinion, alone made the system of project support workable.

Unfortunately, in their loyalty to individual scientists, our adjudicating committees have overlooked the need to foster a climate favorable to the effort of these scientists. They have failed to provide for the health of the institutions that nurtured them. We must persuade the trustees of public funds that, if we would sustain the intellectual life of the community in a free and vigorous state, the only sound policy is to support men through their institutions. They must learn to trust the Universities to pick their men, to take care of their men, and to cherish their ideas. After all the Universities have been in the business of cultivating men of ideas for a long, long time.

Trustees must be persuaded of the value of large institutional grants without restrictive clauses. Project specifications, contractual promises, checks, and counterchecks have no place when you are investing in the improbable. Trustees, inside of Congress or out, must be persuaded that investment in scientific progress is not a trust for the preservation of existing assets. It is an invitation to adventure.

I see that on Thursday you plan to hold a symposium on Government Sponsorship of Medical Research. This is my contribution. Having fired this squib on to your conference table, I now propose to retire to a safe distance.

Neuroses of Librarianship*

By Blanche Prichard McCrum

Library of Congress
Washington, D. C.

WHEN the subject of this paper was assigned to me, I felt I should not undertake to present it to a group of scientific librarians unless it could be based on laboratory tests. Unfortunately, the only guinea pig available to me was I, myself. Therefore, in the vocabulary of science, my data on the neuroses of librarianship are utterly inadequate and incomplete, being based on only one case history. But do not forget that Freud psychoanalyzed himself; and in this matter a cat may venture to copy a king. However, I do want to make it perfectly clear that my library neuroses, though humble things, are mine own, and that I shall be very jealous if I have to ascribe them to any of my colleagues, present or absent.

In preparing to go forward with the investigation of the subject, I also conducted a search of the literature, in sound library fashion. Definitions and cases were studied in various standard medical reference works which you probably know by heart, but at which in my modest general capacity I seldom have the privilege of looking. I found them entrancing reading.

Is it not "gratifying" to learn from such study that, even though neurotic, in general I do not give way to *gross* distortions of reality? I probably have no *genuine* hallucinations; my personality is not *deeply* disorganized. There may be a functional disorder of my nervous system, but no observable physical lesion exists. I must be very thankful for my neuroses, since I might easily have had psychoses. In the latter case, I should have been mad as a hatter, instead of just being on the odd side, as now.

I ask myself, what brought on my neurotic condition? Well, I *may* have a conflict of repressed infantile instinctive demands at variance with the open demands of adult society; important problems of my emotional life *may* have been unconsciously repressed; my personality *may* be at a stage short of general maturity; and I *may* have under-learned social adjustment techniques.

Suppose, all these things being true, I have been sailing along in quite an ordinary fashion not recognizing my neuroses. What are the symptoms for which I should have been on the lookout? Here is a partial catalog of them: inefficiency; inadequacy; compulsive ideas; abnormal mental or bodily reactions to

* Read in part before the Pharmacy Group, 53d Annual Meeting, Medical Library Association, Washington, D. C., June 15, 1954.

significant or even insignificant events; pain in the cardiac region; palpitations; in short, most things except housemaid's knee!

Now, having laughed a bit at the professional vocabulary of psychoanalysis, shall we get down to our real cases, to see if there are indeed grounds in librarianship, of whatever sort, for neuroses—that is for anxiety, fear, dread, and frustrations that induce inefficiency and inadequacy? I think there are such grounds, and I propose to mention four of them for your criticism.

The first item on my list is professional adolescence. From the long history of civilization we know that there have been great bookmen and important libraries, even in days of old. If libraries, inevitably there have been librarians. But I submit that the place of the library as an institution in society, and of the librarians associated with these libraries, has no such professional traditions to make it secure as those that exist for such professions, for example, as teaching, medicine, law, and theology. If you have had occasion to look into Gilbert Highet's excellent book, *The Art of Teaching*, you have had but to cast your eyes upon his roster of teachers to see how far back into the past members of the teaching profession look for the rock from which they were hewn. Socrates, Plato, Aristotle, Jesus are the names Professor Highet includes in his list of illustrious teachers. Coming after the sages and prophets of an even more remote past, who also were teachers, these men have lived and moved and had their being during the period of recorded history, when their teachings have provided a literature from which may be documented their views of justice, truth, love, and the working of the soul in the way of excellence. The teacher of 1954 has back of him an authority that has been recognized and honored for ages.

In like fashion, the medical man of today can trace his formal discipline in professional schools of Western Europe to the rise of universities in the twelfth century, and to the University of Salerno which led in medical education for some two hundred years. The modern lawyer knows that in the same century there was "the lamp of the law" at the University of Bologna. The clergyman who exercises his sacred office now has a right to remember that brilliant men were arguing fundamental questions of philosophy and theology in the schools of Paris, well before the university there had its organized faculty and school of theology in operation in the thirteenth century.

When one stops to consider how long a time these professions have had to take root, grow, die down, seed themselves, and come up again as they are today, it makes us realize how young librarianship is as a profession, and how subject to the psychological disorders of youth. We know, although we do not always remember it, that in the beginning professions are initiated by human beings with vision, understanding, even innate genius for doing what civilization requires to have done. It is only as their work results in organizations and institutions that a complex of inherited experience and required knowledge

brings about systematic professional training, in schools. Such training of librarians in the United States dates back only to the opening of the Albany Library School in 1887. How short a time this is, measured against centuries of training for the older professions, for perfecting all the disciplines that are desirable! How aggravated the problems are by the necessity of training for public, special, private, research, rural, educational, children's, and other libraries at one and the same time! How slow our society has been in giving to librarianship the recognition, ponderable and imponderable, that contributes to a good life in any profession!

The library schools have, I believe, succeeded amazingly in giving general education for librarianship, and I, for one, gratefully acknowledge my complete debt to them for my professional training. But the organized curriculums that will attract and develop bibliographers, documentalists, administrators, reference librarians, and catalogers in the image of men like Justin Winsor, Charles C. Jewett, and Wilberforce Eames are not evolved except after long experimentation, and in response to identifiable demands from the society in which these professional people are to serve. The schools have steadily increased their offerings and widened their programs of study, with the growth of the whole library movement. But even though our professional stature has grown, as it undeniably has, it will not reach full maturity until duration of time, accomplishment, and recognition of the worth of libraries to our civilization have achieved for us the status so long enjoyed by other comparable professions. In the intervening period we may expect persistence of some anxiety, tension, and uncertainty, for these are characteristic of adolescence and the neuroses to which it is subject.

My second suggestion concerning a cause for library neuroses is found in the stereotype of the librarian that still exists all too widely in the public mind today. In this connection may be noted the part played by semantics in creating a popular notion of the librarian as a busy little clerk. The early history of the word, used in quotations to be found in the Oxford dictionary, shows the connotation of a copyist, a transcriber, whose work, even in its own sphere, was not held in high respect. In Dr. Samuel Johnson's dictionary (printing of 1768) the word *librarian* is defined as: "one who has the care of a library." Our own Webster, as of today, still explains our title as applicable to one who has charge or care of a library. You recall Guy R. Lyle's comment to the effect that, in the opinion of not a few, the idea, or stereotype, of the library as a storehouse of books and the librarian as the guardian of those books, still hangs around our professional necks like a millstone.

A librarian who attempts to interest able students in librarianship as a profession not infrequently encounters a serious hazard in the opposition of teaching scholars. The difficulties, struggles, and rewards of the work are not the issues. A fundamental distrust of this specialization, resulting from a firmly

fixed stereotype which makes it seem unsuited to choice minds, is the lion in the path. The misfits, the problem children, the mediocre, Yes; the honors student and the leader of the class, No. Years ago, George Bernard Shaw, who evidently had a stereotype in mind for teachers, said, "He who can, does; he who cannot, teaches." I am afraid there are still a considerable number of those who practice the teaching profession who would rearrange the quotation to read: "He who can, becomes a teacher; he who cannot, becomes a librarian."

It would be completely unfair to attribute this notion of librarianship to the teaching scholar alone. It is held by otherwise intelligent persons in various walks of life. I remember once having had occasion to call on a distinguished creative artist who was a man also of exceptional quality in mind and personality. After we had concluded the matter of our common concern, we lingered talking in his studio about some of the byways of his many interests. He knew I was a librarian, and just before I left he turned to me and said with great sincerity and kindness: "If you are interested in ideas, why in Heaven's name have you chosen to bury yourself in a library?" Here was a man whose passion it had long been to keep, by means of pictorial records, what he found in the world of reality, beauty, and meaning. Yet as he talked to me he seemed to have made no instinctive connection between his own work and the institution and personnel developed to preserve materials comparable to his own, and to make them culturally useful. Instead, the library as a prison for books and records and the librarian as the policeman in charge appeared to come to his mind.

It is very difficult, even for a robust personality, to encounter too many such misconceptions of the work he has chosen as his own, without showing a certain number of psychological scars.

The third deterrent to the librarian's lot as a happy one is found in the conflict between the scholar as the consumer of knowledge and the librarian as the conserver of the materials from which knowledge is derived. One of the classic accounts of this conflict is found in the testimony of Thomas Carlyle, given in 1849 before a commission appointed to inquire into the constitution and management of the British Museum.[1] Although hidden away in the *Sessional Papers* of the British House of Commons, it is one of the choice library documents of our history. While Carlyle, as a man of letters, professed himself to the Commission to be heartily in favor of libraries, the conduct of these libraries so far as it affected him left almost everything to be desired. He fulminated against the necessity that he, a writer and a scholar, should have to

[1] Gt. Brit. Parliament. House of Commons. Report of the Commissioners Appointed to Inquire into the Constitution and Government of the British Museum . . . [Thomas Carlyle, Esq. Examined, Feb. 8, 1849] [London] p. 272–285. (Its Sessional papers, 1850, v. 24). Reports from Commissions, v. 5, 1850.

engage in the petty task of looking up book numbers before he could draw books, instead of merely requesting them by name from an attendant. The routine he was forced to follow in this respect seemed to him as foolish as to ask a customer in a haberdashery to locate the separate drawers in which different items of merchandise were kept. Why could he not have a printed catalog of the 300,000 to 400,000 volumes then in the British Museum to take home and study at his leisure? And why not grant his modest request for a private room in which he and his two clerks could work undisturbed with all the books they required assembled there? Instead of this sensible arrangement, he was forced to use a large public reading room, where the unseemly nose-blowing and other horrid noises made by his companions were enough to drive every creative idea out of his head. He had a harsh word for catalogers, too, because according to him they tore up volumes of pamphlets and rearranged them in an order fatal to their successful use. Speaking of using books, he stated that when he was studying the French Revolution, the collection on that subject owned by the Museum was so effectually closed to him by official restrictions that it might as well have been sealed in containers and sunk on the Dogger-bank.

One hundred years after Carlyle's testimony, a contemporary treatment of the same general problem is found in a provocative article by Dr. John E. Burchard, for which he borrows a title from the French wit who said: "The library is the Waterloo of science."[2] To amplify this critic's meaning, Dr. Burchard points to his own estimate of some one to two million articles a year in the physical sciences alone, published in, perhaps, 50,000 journals. Faced with this mountain of material the person engaged in research wishes to cut through the heap to the heart of what is essential to him. As he attempts to do so he begins to dislike libraries, and, even more, their librarians, who seem to him preoccupied almost entirely with hoarding, not using. He does not, therefore, assess the identification, selection, acquisition, organization, and mobilization of recorded information and knowledge as undertakings which are in themselves worthy of respect. On the contrary, never having attempted to carry on such work himself, he thinks of it as mechanical and vastly inferior to the importance of his own individual research. He looks hopefully, therefore, to surmounting the library barriers by mechanical means represented most notably by the Rapid Selector, the punched-card machines, and their future developments. Dr. Burchard, however, who was once Director of Libraries of the Massachusetts Institute of Technology and is now Dean of Humanities and Social Studies in the same institution, is on the side of the angels where libraries and librarians are concerned. He comments:

> And here is the real dilemma. The course of Western science has tended to put greater and greater spotlight on the doer, or the experimental scientist, and to withdraw the glory from

[2] Burchard, John E. The Waterloo of Science. Revue de la documentation (La Haye) 16, fasc. 4: 94–97, 1949; see p. 94, 97.

the synthesizer, and the critic. We have an age-old intellectual conflict here, not restricted to the scientist of course, but waged with even greater bitterness in art and literature between the critic and the creator. Yet both are needed in a society. And if the machines are to do their full stint, they will need the co-operation of very good scientists. This can scarcely come about if the writer of any kind of "original" paper invariably enjoys more prestige than the writer of a brilliant review; if the designer of a small piece of laboratory gadget has a higher place in the professional sun than the abstractor, or the coder, or the scientific librarian. Yet this is the case today and it applies to prestige in scientific bodies, to promotion in universities, and to relative remuneration everywhere.

The writer goes on to say that even if we perfect machines for use in bibliographical and documentation work connected with research, the codes prepared for them, and the material fed into them must be developed conscientiously, intelligently, even imaginatively, by many men, working over long periods of time, at great cost, to save the time later on, not of more important men but of other men.

Most librarians who have scholars and research workers as their clients could amplify any given record that describes misconceptions of their office and the functions of their institutions. Obviously in these respects the fault is not all on one side. Librarians may put means before ends. The scholar, surrounded by complicated classification schedules, unfamiliar cataloging practices, and outmoded subject headings, understandably may find himself a stranger and afraid in a world he never made. But the tensions that result from any continued differences and discords in understanding of basic purposes, between the consumer and the producer of library services, are threats to the mental health of the librarian who day by day stands in the breach.

The last cause of friction, maladjustment, and frustration that I shall mention in connection with the practice of librarianship is what Franz Grasberger[3] calls the failure to attain a center of gravity in the work, saying:

All work with books calls for an inner and personal participation. Yet the library worker's daily struggle with the public and the burden of routine chores saps him of all resources for a more profound approach. . . .

* * *

The librarian must be equipped to combine in himself almost contrasting faculties; a mechanical and administrative skill with an understanding of spiritual content. To be a scholar, organizer, businessman, technician, and administrator, and to create a harmonious entity out of these conflicting elements of one's profession would seem to be no mean task. . . . The librarian's goal must be a synthesis of theory and practice, which would reduce to a minimum the aforementioned spiritual schism.

I have long believed in the truth of what this writer has well said. While it is true that all active people in all professions have daily, sometimes hourly, interruptions, the great difference is that it is the librarian's business to be interrupted, if his work has any public functions. He and his time on the one hand are expendable; on the other hand, only the conservation of his time for careful, studious work makes him worth interrupting. The managerial aspects

[3] Grasberger, Franz. On the Psychology of Librarianship. Library Quarterly, 24: 35–46, Jan. 1954; see p. 39, 40.

of his work call for activities that must be highly energized; but the ultimate ends he seeks can be reached only as he cultivates the patient mind of the scholar. All too frequently the latter requirement is the unrecognized, unhonored, and unsung element in his professional life. The canniness of his institutional policies, the diplomacy of his relations with his superiors, the trivia of his manners and appearance, his minor technical know-hows, and the possession of almost incidental bits of information often constitute the criteria by which his worth as a librarian is judged, sometimes even by other librarians.

Under these circumstances it is not the frustrated librarian whom I worry about, for unless his neuroses indeed become psychoses he will do something to better his lot. Hawthorne once said: "The world owes all its onward impulses to men ill at ease. The happy man inevitably confines himself within ancient limits." I am not too much concerned about librarians sufficiently ill at ease to try to improve their lot. But I do look with great sadness at the promising people who have found complexities in their profession too numerous to be resolved, and who have settled for a comfortable philosophy of doing one's best and forgetting the rest, until one more mediocre librarian is made in an image never intended by his Creator. I wonder, however, if there is one among us who can legitimately cast a stone at such a practitioner. Is he not, to some slight extent at least, Everyman in American librarianship as it is conceived today?

You have now been asked to consider four causes that may damage the mental and spiritual health of those who practice librarianship. As an optimist by conviction and choice, may I close by suggesting what seems to me to be the therapy that is indicated?

First of all I give you a remedy recommended to me years ago by a country doctor, long before psychiatry became a household word: "If you cannot change your environment, change your attitude to it." It hardly seems probable, perhaps not even desirable in my time—or even possibly in yours—that libraries will be organized as hives of scholar librarians, working only on such large unsolved problems as the total bibliographical control of all the sources of information and knowledge, while life goes by on the other side. Perhaps always we shall man service stations, some large, some small, at the intellectual crossroads of the world; and probably we shall continue to be dusty, scarred, and harassed in the process. But I remind myself and you that "revolutions begin in the minds of men"—certainly beneficent revolutions. I believe the time has come to revolt against the appellation "mere librarian," (a cliché frequently used in my salad days in librarianship) and to assess ourselves with modest pride as agents in the process of that free inquiry which Jefferson and our other Founding Fathers believed essential to the safety of our democracy.

We have paid homage, and rightly so, to the scholar specializing in one subject field, who must pay for his expert knowledge by choosing to be ig-

norant of many other subjects. I think some librarians have been led astray by accepting this type of learning as higher and better than what is available to them if they work for it. All over the world today currents are stirring that are bringing related fields together. In colleges, interdepartmental majors are being offered as part of curricular reforms. A common core of knowledge is being recognized in the creation, for example, of departments giving undergraduate and graduate training in comparative literature and in American studies. These, and other analogous concentrations in different fields, testify to increasing interest in inter-area studies. The age of the universal scholar has gone; the time of the scholar in integrated fields has begun.

Such ideas at work in the world of education are suggestive for librarians, who should be generalists in as many languages and as many related subjects as they can encompass, and at the same time specialists in activities that have to do with the identification, selection, description, and effective use of information and knowledge. In the developments in the educational world that have been mentioned there is great promise for librarianship as a profession. But—and there is a definite proviso—only if we understand and accept the library as in essence an educational agency—a school or university or research center, and the librarian as a research worker or scholar or one who shares with others our cultural heritage. If we achieve this understanding, and derive our pride in our profession from the habits, attitudes, and standards that characterize the best elements in the older professions, then we shall have begun to arrive at complete maturity and usefulness as librarians. At such a time we may think of ourselves as part of the bone and sinew of scholarship, and so thinking may hope to give to our clients, as the best lawyers and doctors give to their clients, service so sympathetic, so informed, so generally knowledgeable, that it will enable the library to take the place it deserves as one of the great institutions of our civilization.

The second familiar and unoriginal suggestion I venture to give, as part of the librarian's mental therapy, is that he make it a matter of conscience to write and publish what he learns and discovers. As a person responsible for a number of years for reading many library reports, I am convinced that formative ideas expressed in them in few words might, if elaborated, have produced solutions to many vexing problems still before us. I believe also that many other ideas precious for the future of librarianship have gone down the drain in the form of unrecorded rough notes, while their originators got on with the drudgery of satisfying the routine demands that come in the day's work. If we may listen once more to our old friend, Thomas Carlyle, he will tell us: "Produce! Were it but the pitifulest infinitesimal fraction of a product, produce it in God's name." Such productivity has long been a criterion by which members of the older professions are judged and rewarded. It is not the prestige and advancement that result from original contributions in our field that

matter so much, although these are not in themselves unworthy objects of endeavor. But I would hope that such rewards might be by-products of genuine extensions of our professional knowledge.

Finally, let us support our library schools with sympathetic understanding as they struggle to perfect their curriculums for the training of librarians fitted to meet contemporary challenges. My personal conviction is that the librarian who aspires to genuine professional status must not grudge the time spent on his training or the rigors of it. In spite of the American's tendency to consider the English language adequate for all purposes, librarians need the mastery of more languages than most of us now have. We need this not only to use foreign reference books but to understand what other countries are saying and thinking about subjects with which we deal. We need also, I believe, integration of much more subject content with the traditional library school courses given at a level of difficulty that will testify to the quality of the minds that have mastered them.

Again, as a matter of personal opinion, I should like to see training for library technicians provided in suitable schools, these technicians to be related to professional librarianship as laboratory technicians are related to medical work. Some of the values of such a division of labor are realized at present by in-service training, personnel plans, and gradations within staff positions. But until we admit that all library work is not of the same professional caliber and systematically educate accordingly, we have a definite handicap in correcting the appalling ignorance that exists concerning the contributions that may be legitimately expected from libraries and librarians to the solution of problems from which our society now stands in jeopardy.

My remedies may seem to you to impose greater burdens than those of the "neuroses" from which we may be suffering. You may think I am piling Pelion upon Ossa for already hard-pressed librarians. Library hours are long. Vacations are short. Salaries do not enable us to have lives in which frugality is not still a major virtue. All of that is true. But for what my own testimony is worth, I believe the best remedies for these and other hardships are found in study, productivity, and carefully acquired professional wisdom. In farewell I share with you a nugget of truth that I value, which I found in Harry S. Ashmore's book, *The Negro and the Schools.* It reads: "No problem is beyond resolution by reasonable men."

The User Looks at the Library*

By Edwin J. Pulaski, Lt. Col., MC, USA

Assistant Chief, Department of Surgery
Walter Reed Army Hospital
Walter Reed Army Medical Center,
Washington, D. C.

IT IS the common thing for a physician addressing a group of medical librarians to remark on his own unworthiness to speak before such a group, to discourse on the great value of medical literature, to say that without Miss Smith in the library he couldn't do his work, to point to discoveries so effectively buried in medical writings that they have had to be rediscovered, to touch lightly on the cultural values of contact with great minds, and then to end up with a graceful allusion to Sir William Osler or Harvey Cushing. I suspect, however, that this clichéd speech bears little resemblance to the facts of life as they are. I have a feeling that medical libraries play a different—though not necessarily smaller—role in the average physician's life than is mentioned in some speeches.

Let me start by asking whether physicians need medical literature at all. Stated so boldly, it seems like a ridiculous question. How, in the face of all the modern advances, can one practice medicine today without access to the newest writings on the subject? Yet we all know men in smaller communities—and some, even in larger centers—who never enter a library from the time they finish their internship to their retirement, and who nevertheless practice a fair brand of medicine. How do they learn of new developments? Well, for one thing, they usually subscribe to the *Journal of the American Medical Association*, their state medical journal, and one or two other magazines which they proudly put in their waiting room bookcases, along with the occasional monograph they buy while attending the state medical association meeting. Sometimes they even read a few of the articles they receive, but usually they are too busy and their wives too insistent that they clean up the clutter of unbound magazines lying around everywhere.

Secondly, they get new medical information from drug firms intent on selling their own products. The detail man comes around and talks to the physician about the uses and abuses of his company's preparations. Advertising brochures on the drugs pour into the doctor's office by the armload. And many drug firms publish respectable abstracts and news bulletins, which are distributed free, and with which you people are probably more familiar than I.

* Read at the 53d Annual Meeting, Medical Library Association, Washington, D. C., June 18, 1954.

So far we have been talking about the general practitioner or general surgeon away from medical centers. He is interested in the literature when he has a puzzling case, or when he has to give a paper before some local group. If he cannot obtain the information he needs from his own collection, he may call on the services of the American Medical Association or American College of Surgeons for "Package Libraries." In addition, he usually has some contact with a local medical library, which is under the auspices of the medical society or the local hospital, or his state, or medical school library; and from these he can go on, via interlibrary loans and photoduplicates, to the services of other medical libraries, including the Armed Forces Medical Library. Sometimes, indeed, he may puzzle the whole matter through without benefit of any earlier work on the subject. And who can deny that his freshness of approach does not sometimes turn up quite valuable new information?

Other groups in the medical community probably use the library differently. The clinical research worker prefers to go down to the doctors' dining room, when faced with a puzzling situation, and ask help from one of the experts there, but when he gets around to writing up his findings, he may for a time become the library's best customer. Generally, the references in his papers are for show, not utility. By the time he settles down to publishing his findings, he has made up his mind about the matter and wants only to back up his interpretations with those of other writers. He is quite content to let the librarian do his literary work for him, and it matters little to him whether or not he has all the available literature.

The research worker, whether he is a clinical or laboratory researcher, is less likely to be working by himself than the general practitioner. He is usually connected with a hospital, or else he would be without the necessary facilities for his research, and in practically every case there is a library available to him in the hospital. Such a research worker uses the medical library to divine what has been published on a problem upon which he is engaged, and to gain support for what he considers a "new" idea. As a result, in addition to the literature used by the general practitioner, the research man is likely to be interested in the specialty journals and the specialized monographs in his field, some of which he himself receives as a member of specialty associations, and many of which he may deposit in the library when he has read them.

Finally, the person working in a medical center is the most fortunate so far as library facilities are concerned, for almost all centers have good medical collections presided over by comparatively large staffs of librarians. It should be pointed out, however, that to most users of the literature these medical center libraries are essentially only more cubicalized versions of a good hospital library. It is the quantity, not the quality, of the literature used by both librarians and users which is different in the larger library.

Based on the kinds of use to which the medical library is put, there are certain goals in collections, arrangements, and services.

For the research man and the good medical teacher, the library should contain everything. Frequently such a person has no conception of what "everything" means, and he certainly can't tell you today what will be vital to his work tomorrow, but in all probability if you don't have it he will deplore aloud the gaps in your collection. He may say it is more important to get the best works, even if it is necessary to wait to see how they are reviewed in the best journals, but when he wants a title and the librarian uses this excuse for not having it, he is unimpressed. You can offer to get the item for him from another library or buy it for your own, but you didn't have it when he wanted it and that settles it in his mind. His naive faith in your ability to read his mind the week after next shows that he thinks of the library as a department store, which will stock everything. And, like a customer in the department store, he is not interested in the intricacies of the behind-the-scenes operations. He cares only for the results. Whether he reads in a large or small room, and whether you arrange the books by size or color or the whim of the fourth assistant librarian, if you can produce what he wants when he wants it, he will accept any scheme you use.

In my experience, few research workers use a library catalog if they can avoid it. They may go to it to copy down the number of a book their colleague mentioned to them, but they rarely use the subjects set forth so painstakingly. Journal articles, rather than books, are their usual fare, and the citations to these they get from indexes, the bibliographies at the ends of articles, private letters, or word of mouth advertising. Here is one place where librarians can help enormously. If the librarian would point out to the library users how much of a general conspectus of the literature can be obtained from the abstracting portions of journals already in the library—such as the *Journal of the American Medical Association* or *Surgery, Gynecology and Obstetrics*—and if he would share his bibliographic knowledge of medical indexes with the physicians, much aimless and fruitless searching could be avoided.

We come now to the central question: What help does a physician expect of a librarian? The least he expects is a knowledge of what is in the library, and he generally feels safer if that information is written down in some kind of card file, rather than being in the memory of the librarian only. He also expects the librarian to act as clearing house for all bibliographical matters, interlibrary loans, photoprints, knowledge of how to buy books, and the like. He usually hopes for general help in answering questions, but he does not expect translations, long bibliographies, or reviews of the literature, except as outside jobs paid for as extras.

Part of the reason the physician usually does not count on literature surveys from the librarian is that he may be looking for something quite vague and only from chance leads will his search develop and take on definite form. Another reason is that it is usually so difficult to determine just what a writer is trying to say, that the actual user must evaluate the work himself. Any

medical worker who will not read the literature himself is likely to rue the day when his colleagues gleefully point out errors to him.

Finally, it is probably true that medical librarians will never be able to exploit the literature which they collect and arrange unless they have more background in those subjects. I realize that this is partly an economic problem, and I am not prepared to say how *much* more background is needed. But certainly some academic training in the basic biological sciences, plus an assiduous reading of current medical literature would be very helpful. I do not envision medical librarians ever being physicians, as a general thing, but I see no reason why the prestige of the group should be any lower because of the para-medical nature of their work than is that of the nurses, the pharmacists, the physical therapists, or the social workers.

As I have said, this is partly an economic problem which implies more money, both for the support of library purchasing power and for better pay for librarians. And here is the rub. How to get such support is indeed a thorny question. Medical schools and hospitals constitute the largest group of institutions with medical libraries, yet these are the groups which are finding it more and more difficult to finance their most necessary operations. Fees in hospitals and tuition in medical schools have played leapfrog with the cost of living in the past decade without beginning to pay for the institutions' expenses. Private donors, foundations, and the Federal government have all been asked to contribute heavily, but there still remains a noticeable gap between what is possible and what is desirable.

Medical libraries must, therefore, meet very strong competition for their share of the parent institution's budget. It is my opinion they will never get their just share unless they prove their worth to the community they serve, and move in from the peripheral luxury class to the central necessity core of the hospital or medical school. I have observed that the faculty of a medical school and the service heads of a hospital where there is a strong, well-run library are likely to see to it that the library is not forgotten when the budget is worked out. But where the library is feeble and without forcefulness, the budget for it is also feeble, and, by the usual circle of events, the library then grows even more feeble and even less forceful. Here is a place where the library committee, working with the librarian toward a common goal, might well help each other. A medical library is an educational device, and a library committee can help in seeing that adequate amounts of money for its administration are part of the budget of the institution, just as in the case of other custodial and maintenance services. Money to support the library is like an insurance premium, which should be paid regularly every year.

But even with the best will in the world, money can be made to stretch only so far, and that means that few medical libraries will ever get all the income they need or their well-wishers desire for them. Obviously some form

of cooperation is essential. You as medical librarians, and I as a member of the Army Medical Service, can both share in the glory of the interlibrary loan system, first worked out by John Shaw Billings in the Surgeon General's Library. In my capacity as a member of the Armed Forces, I have been the recipient of microfilms and photostats of articles not available to me in my local post library or in the various theatres of operation, but which the Armed Forces Medical Library holds in trust for the entire nation. I doubt if Army medicine could have come to its present high standard without the availability of the medical literature made possible by this service. This is what I meant earlier when I said that the medical library should be in the central necessity core of medicine.

In the United States and the English-speaking world in general, few individuals are really remote from sources of medical information. What is needed can, perhaps, be summed up as follows: (1) Repeated re-education on what is available and how it can be put to its best use. When librarians pass on their knowledge of what can be obtained from where for how much and how quickly, they are performing a great service. (2) The physician, on the other hand, also has real responsibilities in connection with library use. He should, for example, return material he has borrowed when he has finished with it, so that others can use it. He should not ask for unnecessary works from other libraries, and he should advise the librarian on new books and journals. The librarian might occasionally remind him of this as tactfully as possible.

Finally, we physicians, especially the medical teacher and the older research worker guiding his younger colleagues, should see to it that the medical student learns to think of the library as being of as much help to him as the diagnostic laboratory or the research instrument, and that he gets into the habit of turning to the literature regularly. We have not, I am afraid, always lived up to this responsibility, which requires more than lip service on occasions like this. We ourselves must learn to use our medical libraries so our actions will reinforce our precepts to our colleagues, and for this we may well ask for your sympathetic help.

It is my belief that the time has come to redraw the stereotyped picture of the librarian—both male and female—as an old fuss-budget who has forsaken reality for the cloister, to an individual who reads and thinks and is very anxious to show appreciation for others by extending himself in every way he can be of help. Such individuals can freely be asked for help and specific information and will freely give information themselves. They are the Galenic "vital spirit" in the physician's search for medical literature.

Early Plans for a National Medical Library*

By William Jerome Wilson, Ph.D., *Chief*

History of Medicine Division
Armed Forces Medical Library
Cleveland, Ohio

SHORTLY after the Civil War two plans were suggested for the formation of an American national medical library. They both took shape about the year 1868. By 1895 one was an assured success and the other a pretty obvious failure. Both plans were launched by very able men, but one had a building, a paid staff, and a fund for acquisitions, while the other relied on voluntary assistance for all three of these vital functions. You can guess which of the plans succeeded.

One plan was developed as an instrument of the Medical Department of the United States Army, which down to the time of the Civil War had not been a particularly bookish institution. It had originated in 1775 as an organization hastily improvised to care for the wounded during the siege of Boston. It was not then called a Medical Department; the usual term for it was simply "the Hospital" or sometimes "the Hospital Department."

On 27 July 1775, the Colonial Congress, then in session at Philadelphia, passed a bill authorizing a "Hospital for an Army consisting of 20,000 men," with "one Director General and Chief Physician, his pay per day four dollars." There were also to be four Surgeons, one Apothecary, 20 Surgeon's mates, one Clerk, two Storekeepers, and one nurse to every ten sick. A nurse received one-fifteenth of a dollar (six and two-thirds cents) a day. No mention is made of a librarian, nor would one be expected in such an organization. The physicians and surgeons of the Colonies had volunteered for an emergency service, bringing with them not books but whatever knowledge was in their heads.

It would be quite unjust, however, to represent the medical services as illiterate. The physicians as individuals were continually importing medical books from Europe, and they also produced some medical literature of their own. In 1776 Dr. John Jones, sensing the need of the times, published an excellent book entitled, *Plain, concise, practical remarks on the Treatment of Wounds and Fractures; to which is added an Appendix, on Camp and Military Hospitals; principally designed for the use of young military and naval surgeons in North America.* In 1780 Baron von Steuben, then serving as Inspector General of the Continental Army, issued with the approval of Congress the

* Read at the 53d Annual Meeting, Medical Library Association, Washington, D. C., June 18, 1954.

first Army Regulations; this was a small volume, but it found room for a chapter entitled "Treatment of the Sick." In 1807 a naval surgeon, Dr. Edward Cutbush, published his *Observations on the Means of Preserving the Health of Soldiers and Sailors*. Just before the War of 1812 broke out, Dr. James Tilton published his *Economical Observations on Military Hospitals, and the Prevention and Cure of Diseases Incident to the Army*.

So one might go on, but this is not the place to list further publications of the sort.[1] It is reasonable to assume that these and probably a few other books may have been carried in the saddlebags of surgeons during the Revolution and the War of 1812, but there was in that period certainly nothing that could be called an army medical library.

The year 1818 saw considerable improvement in organization. At that time Congress revised the structure of the Medical Corps and provided that it should be headed by a Surgeon General. In September of that year was published a 31-page pamphlet of *Regulations for the Medical Department*, and this says a good deal about books, but the references are deceptive. For example, page 8 says: "One of the assistant surgeons shall take charge of the books of the hospital;" but it then proceeds to specify what these books are, "namely, the register, case book, prescription book, and diet book, that containing the diary of the weather, and the orderly book." These are obviously not library books; they are what we nowadays would call notebooks.

Some 18 years later, in or about the year 1836, in the office occupied by the Surgeon General, was finally established a medical library. It consisted of reference works for his use, and it was quite literally what it long was called—the Surgeon General's Library. A surviving handwritten catalog prepared in 1840 lists 228 volumes. At the outbreak of the Civil War in 1861 there were about 350 textbooks and journals, and by 1864 a printed catalog showed 1365.

A few months later there entered upon the scene Brevet Major John Shaw Billings. According to the 1867 *Medical Register of the District of Columbia* (page 34), he was "Assistant Surgeon in charge of Contract Physicians' Accounts, Reports of Hospitals, etc., etc." In other words, he was in charge of those "books of the hospital" that were mentioned in the Regulations of 1818. He was not at first officially in charge of the Surgeon General's Library, but he soon took it over as his province. By 1865 the number of volumes in that collection had risen to 2258, and by 1868 to 6066. This was the critical year. In 1868 an allotment of $80,000, left over from war appropriations for hospitals, was made available to Billings for the expansion of the Library. At once things began to happen. He not only bought books at a rapid rate, but he had them cataloged. In 1872 he issued a 454-page *Catalogue of the Library of the Surgeon General's Office*. This, it is explained, was "prepared and printed

[1] On the literature and the entire historical developments see Harvey E. Brown, The Medical Department of the United States Army from 1775 to 1873. Washington, 1873

within six months, to meet a want which daily became more pressing." It covered about 13,000 titles, in five main fields as follows:

1. Military hygiene, medicine, and surgery.
2. Public hygiene, medical police, and state medicine, including epidemics and quarantine.
3. Vital and medical statistics.
4. Medical and scientific journals and periodical literature.
5. Chemistry, meteorology, and physics.

The introductory "Memorandum" continues:

> As will be seen by the catalogue, a good foundation has been made for a library relating to the above subjects; but it is still very far from being complete. . . . No complete collection of American medical literature is in existence, and the most complete, if in this country, is in private hands, and not accessible to the public.

The following year Billings put out an enlarged and revised three-volume catalog in which he stated:

> The library now contains about 25,000 volumes and 15,000 single pamphlets. . . . Nearly 4000 single theses and pamphlets have been placed in the library as a special deposit from the Library of Congress. . . . The books are conveniently arranged on iron shelves in the fireproof building of the Army Medical Museum. . . . As the existence and objects of the collection have become more widely known to the medical profession of the country, a steadily increasing interest in its progress and completeness has been manifested, and the donations from private physicians during the past year have been large and numerous.

Billings adds a considerable list of donors, in which is included the name of one of J. M. Toner, of Washington. Of Toner more hereafter.

In his successive catalogs one can see the idea developing in the mind of John Shaw Billings that he was constructing a medical library on a national scale, and the time came when he decided that its name ought to reflect this fact. In 1876 he issued a "specimen fasciculus" of that work upon which his fame chiefly rests, namely, the *Index-Catalogue*, and on the title page, obviously as a sort of trial balloon, he referred to the collection as "the National Medical Library." The transmittal letter introducing the specimen began:

> I have the honor to submit the following specimen of a catalogue of what may now be properly called the National Medical Library, heretofore known as the Library of the Surgeon-General's Office.

For the benefit of those not acquainted with its scope and character he added on a later page:

> It is the National Medical Library of this country, being essentially the Medical section of the Library of Congress; its general plan of management and of cataloguing being the same. It is at present under the direction of the Surgeon-General of the Army, in connection with the Army or National Medical Museum. For several years, the Librarian of Congress has not purchased medical books, leaving that branch of literature to be collected by this department. The library now contains about 40,000 volumes, properly so called, and about the same number of single pamphlets.

The "specimen fasciculus" was widely distributed to persons interested in such matters, and comments were solicited. From Dr. Edward H. Clarke, of Boston, came a letter praising the work highly but adding:

> The only suggestion I have to make is with regard to the word National in the title. It seems to me that the notion is right that the word national may give to politicians a hint to interfere and perhaps cut down the appropriation a good deal. I would not hang out any colors by which to attract their observation.[2]

It is curious to observe that at the end of his letter Dr. Clarke himself speaks of the "National Library." It comes out quite naturally, as if it were the proper term to use. "I send," he says, "by Adams' Express four volumes which I have published, as a gift to the National Library." His objection to the change of name was evidently pure expediency, not based on fact or principle. In the end, however, counsels of expediency prevailed. When in 1880 the volumes of the *Index-Catalogue* began to appear, they carried the time-honored name, "Library of the Surgeon General's Office."

In 1895 the *Index-Catalogue* completed the last volume (the 16th) of its first series. In that year also Billings retired. It was the end of an era. The collection then numbered 308,445, a figure that probably includes both bound volumes and pamphlets. Though it was not formally so named, it had become in fact the American national medical library.

* * *

During the same years, from 1868 to 1895, another but less successful plan was launched for essentially the same purpose. It was sponsored by the American Medical Association. The story is now little known, but the facts were brought together in an interesting chapter which Mrs. Marjorie H. Moore contributed to Dr. Morris Fishbein's centennial volume on the *History of the American Medical Association 1847 to 1947* (pages 1071–77). It is an instructive though in some ways a rather melancholy narrative.

The American Medical Association was founded in 1847, but not until after the Civil War do we hear of plans to establish any kind of library for its use. When they came, however, the plans were daringly ambitious. The leading spirit in the undertaking was Dr. Joseph M. Toner, of Washington, D. C., a successful physician and an enthusiastic collector of medical books. You will recall that he was on Billings' list of contributors in 1873. In 1867 Toner published a small but meaty volume with an elaborate title: *Medical Register of the District of Columbia, Embracing Notices of the Medical, Benevolent,*

[2] Letter from Edward H. Clarke, M.D., 18 Arlington St., Boston, 27 May 1876, to J. S. Billings, M.D. Labeled by the filer: "Comments on Fasciculus—change of name of the Library." In Package 14 of Billings correspondence at the Armed Forces Medical Library, History of Medicine Division. The letter was brought to my attention by Miss M. E. Low.

and Public Institutions of Washington. This book describes the Surgeon General's Office and the Army Medical Museum in considerable detail and mentions Billings as Assistant Surgeon, but says not a word about the library. It speaks of four other libraries in Washington, of which two had some medical significance. One was that of the Medical Society of the District of Columbia with about 150 books and pamphlets. The other was that of the Smithsonian Institution. This latter, of a size not specified, was said to be especially rich in scientific periodicals, but because of the fire risks of the Smithsonian building the collection had been transferred bodily to the Library of Congress in 1865.

It is plain that 1868 was a year of decision for both Billings and Toner. In that year the $80,000 of unused hospital funds was made available to Billings for his library plans. In that same year Toner was appointed chairman of an A. M. A. committee to examine "the practicability of establishing a library of American medical works, including books, monographs, and periodicals." The committee's report was read by Dr. Toner at the New Orleans annual meeting of the A. M. A. in 1869 and was published in the *Transactions*. It is so clear, logical, and forceful that its salient paragraphs deserve to be quoted.

> After carefully viewing the project in all the relations in which it has presented itself to us, we deem it not only practicable but exceedingly desirable that a library of the character suggested be established under the auspices of the American Medical Association, and commend the measure to the patronage of the medical profession of the United States.
>
> The value of books to the medical man cannot be overestimated. They are the inexhaustible fount of knowledge from which the discoveries of the day, and the accumulated experience of ages may be drawn.
>
> The physician whose studies lead him to consult early American medical literature must be painfully struck with the perishable character of our professional literature, and the meagre or fragmentary collections which have been made.
>
> There is no city or library in our country that can boast of anything like completeness in the works of American authors. Indeed, it is to be feared that the combined collections of all libraries in the country would not now produce a complete list of the various contributions to the science of medicine by local practitioners since the settlement of this continent.
>
> It is to be hoped that national pride will, in this direction, aid our professional requirements, and that this body may, at its present session, inaugurate measures that will lay the foundation of a great national medical library, or repository of all American medical works, including books, pamphlets, periodicals, journals, transactions, reports, addresses, circulars, catalogues, etc., that are in any way connected with the history and practice of medicine, and such other medical works as may be contributed to the collection.
>
> Much of the material that is desirable for such a library, and which is so intimately connected with the most interesting period in the history of the medical profession in America, is now almost irrevocably lost, and further delay but adds to the danger of its complete destruction, or enhances the difficulty of recovering copies for preservation. We should aim to make the collection absolutely complete in all that has been contributed to the literature of medicine by American physicians, from the settlement of the country to the present time.
>
> Such a collection would interest the whole medical profession, and the inquisitive, not less than the curious student of our own and foreign countries.

The committee did not merely generalize. It recommended six practical steps.

1. That the medical profession be asked to contribute "books, pamphlets, periodicals, and money" to further the cause.

2. That every living American medical author or publisher be asked to contribute a free copy of each of his medical publications.

3. That physicians and others owning duplicates of early, scarce, or out-of-print American medical works be asked to contribute them.

4. That the Association provide the librarian with a small sum, say $100 or $200 annually, to invest in books and to pay postage on packages.

5. That the librarian be instructed to exchange any accumulated duplicates for works not yet owned, and to make an annual report of expenses and of increases in the collection.

6. That a bookmark of the Library of the American Medical Association be inserted in each book, with the name of the donor.

It was a well-rounded plan. Three other things were needed: a building to house the collection, a librarian and staff to process and service it, and a money income to pay for it all. However, the committee had thought of these things too and had evolved a scheme by which they might be had for nothing. This was probably the fatal weakness in the whole enterprise.

As for a location, Dr. Toner thought not unreasonably of the two Washington libraries that already had some medical significance. One was that of the Medical Society of the District of Columbia with 150 books and pamphlets. Toner approached that institution and was assured that it would gladly accept as a deposit the proposed collection of American medical books and would duly process and service them. Those are our modern terms. The wording in Toner's report was that the Medical Society Library would "catalogue them and keep them in condition to be readily consulted."

But the building of the Medical Society was not fireproof and there was a good deal of doubt as to its suitability. Therefore, Toner also approached the Librarian of Congress, A. R. Spofford, to whose custody, as you will recall, the Smithsonian Collection had been transferred in 1865. Spofford replied at some length and with great amiability. He pointed out that the Library of Congress had a fireproof building in which there were already some 6,000 medical books, and he offered to set apart an alcove in the medical department of his Library for the proposed A. M. A. collection. He suggested that each book have a printed label identifying it as the property of the American Medical Association and added: "I have no doubt that the Joint Library Committee of Congress would concur in such regulations as might be agreed upon relating to the reception and care of this special collection." Little did he know.

The rest of the unfortunate story can be quickly told. The Association accepted the report of Toner's committee and adopted its recommendations. A

resolution was passed "that the proposition of the librarian of the Congressional Library be accepted." A special bookplate was prepared. It had a figure of the caduceus at the left; across the top were the words, "Library of the American Medical Association;" there were spaces for the call number and the name of the donor; and below was the legend, "This collection of Books is a special deposit in the LIBRARY OF CONGRESS." A circular was also drawn up, appealing to the medical profession of the country to contribute books to the cause.

Exactly what happened in the Joint Library Committee of Congress is not fully known, but by 1870 it had still not authorized the Librarian of Congress to receive as a special deposit the books which the A. M. A. had begun to assemble. It never did so authorize. At the 1870 meeting of the Association it was stated: "In order to obviate the embarrassment thus caused, Dr. J. M. Toner . . . applied to Professor Henry, who very kindly and courteously fitted up a room in the Smithsonian Building for [the collection's] safe-keeping and preservation."

From 1869 onward this collection had a succession of part-time librarians, from whose reports it is evident that the original grand plan was working out badly. Some books were collected, but the packages were stored away unopened. There was no processing or servicing. By 1895 only 3781 volumes and 3708 pamphlets had been assembled, or a total of about 7500. This was the year in which Billings retired, leaving a collection of 308,445 titles in the Surgeon General's Library.

In this year (1895) the A. M. A. enterprise was abandoned. The 7500 books and pamphlets thus far collected were turned over to the Newberry Library in Chicago. The agreement provided that "the said books and pamphlets shall be treated by the Newberry Library in all respects as its own," though the A. M. A. bookplate was to be left in each book.

In 1907 the two great libraries in Chicago that were interested especially in science agreed to divide the field somewhat more rationally between them, and accordingly the entire medical collection of the Newberry Library was transferred to the John Crerar Library. This included the A. M. A. deposit, and the A. M. A. bookplates in these books were now covered with the bookplate of the John Crerar Library. There is no existing list of the titles involved, and the books cannot be readily identified. Until last February Mr. Herman H. Henkle, the present Crerar librarian, was not even aware that he had such a group of books in his Library. It was brought to his attention by the Director of the Armed Forces Medical Library.

Recently the John Crerar Library has established "Procedures for Recording Books from Private Libraries," with this preamble:

> In historical studies, particularly studies of the work of individual scientists, knowledge of the content of private libraries is often relevant. Crerar collections contain thousands of

volumes which were formerly in the private collections of outstanding figures in the history of science, but a record of this fact is practically non-existent in the library.

Catalogers and other staff members, when they notice private library copies in the course of their work, are to fill out special index cards. In the course of time by this method the list of the A. M. A. deposit may be largely reconstructed.

If there is any moral to be drawn from the foregoing story, it is probably the prosaic one that a noble and well-conceived acquisition plan is not likely to succeed on a purely improvised basis. It requires a physical plant, a professional staff, and money. In its large outlines the Toner plan seems, except for these vital elements, as admirable as that of Billings, but it failed. Mr. Henkle, in commenting on the two efforts, has in effect suggested that the chief difference lay in this fact, that the Billings plan included Billings. It also included, of course, the $80,000.

Remembering Dr. Toner's failure to receive Congressional approval of the agreement with Mr. Spofford, one might perhaps be justified in adding another minor moral: Put not your trust in a Congressional Committee until it has signed on the dotted line.

By way of epilogue a word may be added regarding Toner's personal collection. By 1882 he had assembled in his house on Louisiana Avenue a library of about 28,000 books and 18,000 pamphlets, chiefly on medical subjects, and with especial emphasis on American contributions to medicine. This private library of Toner's is doubtless what Billings referred to in his 1872 catalog when he remarked: "No complete collection of American medical literature is in existence, and the most complete, if in this country, is in private hands, and not accessible to the public."

Being now in his fifty-seventh year, Toner in 1882 began to think of giving his collection to some established institution that might keep it as a memorial to him. One attractive possibility was the Ridgway Branch of the Library Company of Philadelphia, whose librarian wrote to him on 21 February 1882:

> My Dear Doctor: I want you to come and see our new fire-proof building, costing $800,000. We have room for 400,000 volumes, and an endowment to administer it. Accordingly, we have no hesitation in inviting contributions from collectors. Give us your collection and your portrait, and we will call it the Toner Library, and keep it together.[3]

With such an offer it might have seemed that the Library of Congress, then still in utterly inadequate quarters in the Capitol building, could not compete. Nevertheless, Toner talked the matter over with his friend Spofford, who knew the collection almost as well as its owner did, and who said of the Philadelphia proposal: "The offer is a fair one, Doctor, but the Library of Congress will do as well for you, I know." On 19 March 1882, therefore, Toner wrote to Spofford a letter formally offering him the books.

[3] 47th Congress, 1st Session, Senate Report No. 578, p. 1, note.

In the subsequent interchange of correspondence on the matter both men must have had in mind the fiasco about the A. M. A. deposit a dozen years earlier. Spofford before replying took pains to consult at length with John Sherman, Chairman of the Joint Congressional Committee on the Library, who believed that he had the legal right to accept such a gift, but who suggested that it would be proper to put a special act through Congress authorizing the step.[4] This was done on 16 May 1882, by means of a joint resolution of Congress. The Joint Committee, to show its gratitude, authorized a marble bust to be made of the donor, and in the new Library of Congress building, which was completed in 1897, this likeness stood for years in the office of the Superintendent of the Reading Room. It has since been relegated to a remote bookstack, but an excellent portrait of Toner now hangs over the entrance to the north stack in the new Rare Book Room.[5]

Behind that door are most of the printed works of Toner's collection, many of them definitely in the rare-book category. In the Manuscripts Division, on the other hand, are masses of his written and typed materials, including 13 scrapbook-like volumes with a handwritten title page reading: "An Alphabetical List of the Medical Men Who supported and took part in the War for American Independence." This came to at least partial publication in 1876 in Toner's *Medical Men of the Revolution*, with the names of nearly 1200 physicians. There are also 16 similar volumes of notes and clippings for a projected series on "American Medical Biography." This material is obviously unedited, as may be judged from the last sentence of a two-page sketch of Dr. John White: "He died in Philadelphia July 7, 1838 aged 80 years and was a candidate for Sheriff in 1829." However, though not ready for publication, the series is in alphabetical order and contains much information not readily accessible elsewhere.

So far as has been determined, Toner never considered giving his private collection to the Surgeon General's Library, to which it might perhaps more logically have gone. Whether personal considerations influenced his decision is not known, though it seems probable. However that may be, we find him on 3 May 1882, in one of his letters to Spofford, speaking with realistic modesty of his own collection in comparison with that other and much greater one. "Whether," he writes, "this collection [of mine] would have any or a particular value if deposited with you, considering your already large and valuable library, and the enormous collection of most valuable medical works in the Library of the Surgeon General's Office, will be best known to yourself." Here is an unreserved tribute from the loser to the winner in the early competition to found an American national medical library.

[4] Letter of A. R. Spofford to J. M. Toner, 25 March 1882. In Letter Book of the Librarian of Congress, Sept. 30, 1879, to June 4, 1883, pages 691–93.

[5] For many details and a careful general estimate of the Toner collection, see David C. Mearns, The Story up to Now. Washington, 1947, 112–14.

Medical Science Resources in the Library of Congress*

By Raymund L. Zwemer, Ph.D.

Chief, Science Division
Library of Congress, Washington, D. C.

When one contemplates the tremendous number of scientific discoveries that are included in the hundreds of thousands of monographs, periodicals, reports, and manuscript materials in the Library, one realizes the truth of the statement made by W. J. Humphrey that many scientific investigations are lost for years, if not forever, in the jungle of journals and the tangle of tongues. To rediscover scientific facts that have been found and lost again has been a profitable occupation for many individuals over many years, and some of the lost investigations have derived new meaning when viewed in relation to more recent contributions to science.

The medical librarian with a literature problem turns to the Library of Congress most often for the hard-to-find item, often foreign or old materials of limited availability. The vastness of the Library's resources in medicine is not generally appreciated, possibly because of the eminence of the collection in so many other fields.

It is difficult even for the Library to realize the extent of its holdings in science and technology. If one were to read three books a day for a thousand years, one would not have exhausted these resources, which amount to more than a million cataloged items (monographs and bound journals) in the classified collections alone.

These volumes are chiefly in four subject categories, composed entirely of scientific material, as follows:

Science (Class Q) 363,000 volumes
Medicine (Class R) 157,000 volumes
Agriculture (Class S) 173,000 volumes
Technology (Class T) 386,000 volumes

Three other classes that contain some thousands of volumes of a technical nature, mixed in with many nonscientific works, are Geography-Anthropology (G), Military Science (U), and Naval Science (V). By intention, Library holdings in medicine and agriculture—although reasonably extensive, par-

* Adapted from remarks made by Mr. Verner Clapp, Chief Assistant Librarian, Library of Congress, at the 53d Annual Meeting, Medical Library Association., Washington, D. C., June 17, 1954.

ticularly in basic publications—are considerably less complete than are the holdings in other scientific disciplines. This is because the Armed Forces Medical Library and the Department of Agriculture Library are by mutual agreement considered the "national libraries" for their respective fields.

For the scientist looking for reports on advances in his field, the most important publications are the current serials. In the Library current nongovernmental periodicals are maintained by the Serials Division and may be consulted in the Periodicals Reading Room. It has been estimated that there are more than 40,000 serial publications in science and technology currently issued, of which more than 25,000 are received by the Library.

In addition to current serials and the scientific publications in the general collections, a great many scientific materials are to be found as part of the numerous special collections, segregated by virtue of their language, format, or special storage requirements. It is not easy to identify items of interest to science in these collections, however, because the catalogs and other controls vary with the problems of the respective custodial divisions.

The avid pursuer of medical literature can find extensive material in many unexpected places. Herbals and other very early Chinese treatises are in the Orientalia Division, along with numerous recent and current science publications in the Far and Near Eastern languages.

The Library of Congress collections are distinctive in the large number of editions of the famous herbals of China. For example, as many as fourteen editions of the *Great Herbal* have been collected with dates of publications ranging from 1603–1912. This contains detailed information, illustrations, and recipes for many hundreds of herbs. Equally famous is the 15th century *Famine Herbal*, so called because it concerns plants that can be used as food in times of famine. The great Chinese medical classic, *Huang Ti's Internal Classic* or *Canon of Medicine*, probably first compiled about 1000 B.C., has had numerous annotators and different editions throughout the years. Eight independent copies of different editions of this classic are in the collections of the Chinese Section. Records of measurements of the human body, such as bones, arteries, alimentary tract, etc., appear in these books, and some ideas and interest of the medical lore of this old work concerning the subjects we now know as anatomy, physiology, pathology, and medicine may be shown in the following extracts, translated by a member of the Science Division staff:

"Diseases are commonly divided into two groups, those arising from external influences such as winds, cold, dryness, moisture, etc., and those from internal emotions, such as joy, grief, anger, fear, etc."

"All the blood is under control of the heart. The heart regulates all the blood of the body. The blood current flows continuously in the circle and never stops. The blood cannot but flow continuously like the current of a river. The blood travels three inches during inhalation and another three inches during exhalation."

These ancients made a very near guess at the facts of blood circulation as these maxims were generally accepted some 2,000 years B.C., or 3,600 years before Harvey.

There are also about 305 reels of microfilm of the most important Chinese medical books in the former collections of the library of Peking Union Medical College. Some more recent material from the Chinese collections, including a discussion of acupuncture, the accepted method of treatment of many diseases, are on exhibit.

The Rare Books Division contains early editions of many outstanding classics of science; in the Vollbehr Collection of incunabula, for example, there is a wealth of material for the study of the history of scientific thought. Here is the personal library of Dr. Joseph Toner, a collection rich in early medical literature dealing particularly with the history and biography of early American medicine, with emphasis on the area around the District of Columbia. As Dr. Wilson is including the Toner material in his address, he will perhaps point out that in addition to this library, the personal papers of Dr. Toner are in the Manuscripts Division of the Library of Congress. These include numerous notes, clippings, and correspondence with physicians in the period 1870–90 and his volumes *American Medical Biography* and 16 volumes devoted to *Medical Men of the American Revolution.* In the vast number of private papers in the Manuscripts Division, the research worker would have to delve for much of his information, but he would be rewarded by discoveries of many firsthand accounts of early medical activities, such as those of Dr. William Gorgas, Surgeon General during the construction of the Panama Canal, including much material on yellow fever.

Those unfamiliar with the Library might never think of finding photographs, blueprints, punched cards, maps and charts, and microfilm in the collections. In the Microfilm Reading Room, for example, are microcopies of recent Ph.D. theses in the fields of science and technology and other material in microform. The Map Division has a number of maps and charts illustrating epidemiological and other disease distribution data which might be of interest to this group.

Extensive deposits of material have been made through the Office of Technical Services within the Department of Commerce, and other Departments, much of it in the medical field. These deposits are recorded in special bibliographies or in the shorter articles published in the medical journals.

In the Prints and Photographs Division, in addition to the conventional graphic material such as the portrait and photographic series from various pharmaceutical houses which might be of interest to this group, there are also a number of more unusual items. There are many documentary photos of civil war hospitals, ambulance trains, and the work of the United States Sanitary Commission as recorded by the famed photographer Mathew P. Brady. There is an album entitled *The Nation's Health* which includes 50 original charts and graphs used in a Federal Security Agency presentation in 1950. There is a progressive series of colored transparencies showing a Navajo medi-

cine man preparing colored sand and instruments for use in treating a sick child. Of a more technical nature is an atlas of fundus pathology on 2 x 2″ colored slides accompanied by short case histories.

A very special category of scientific material developed during and since World War II is that of the research reports produced under Government contract by research laboratories in universities, private institutions, and Government installations. More than 150,000 of these reports have already been cataloged and abstracted and form a special collection in the Technical Information Division. These technical reports, some of which are classified for reasons of national security and are therefore not generally available, are increasing by more than 25,000 a year.

Many of the contractors of the Department of Defense are located in medical schools and medical research institutes. Their reports and those of the federal agencies engaged in medical research are included in this vast collection of report literature. Many of these reports were issued on microcards for retention instead of being issued on a loan basis. This has proved to be a convenience to research workers and it was found to cost less to supply microcards than to lend the report. Also in the Technical Information Division are the vast collections of reports prepared under the Committee on Medical Research of the Office of Scientific Research and Development. Special bibliographies have also been prepared in the Technical Information Division; a notable one entitled "Physiology of the Circulation of the Brain," was later published as a supplement to *Physiological Reviews* for July 1952.

The collections of books and periodicals are also far from static. A recent analysis of the Library publication, *New Serial Titles*, showed that in 1951 and again in 1952 there were more than 600 new titles in basic science, with 3 times that many pertaining to agriculture, medicine, engineering, and industrial technology being received by the Library.

Under the sponsorship of the National Science Foundation, the Library has compiled bibliographies of the scientific and technical serials currently published in the United States (1950–1953), and similar publications of the Soviet Union for the period 1945–1953. The titles are arranged in broad subject categories and in the first there are nearly a thousand titles in the medical sciences, while in the second there are approximately three hundred. These bibliographies are being published by the Library of Congress with the assistance of the NSF and should be available during July 1954.

It requires Herculean efforts to organize and control the constant stream of new material received through copyright, purchase, gift, and exchange so that it can be used. For this reason the medical and other science activities in the Library of Congress are of necessity not confined to any one division or department, and the service to scientists and science librarians requires the coordinated efforts of many divisions, some of which you will now have an opportunity to visit.

The National Medical Library: The Survey and Ten Years' Progress*

By Estelle Brodman
Assistant Librarian for Reference Services
M. Ruth MacDonald
Assistant Librarian for Cataloging
and Frank B. Rogers, Lt. Col., MC, USA
Director
Armed Forces Medical Library
Washington, D. C.

IT IS now just ten years since the report of a survey of the National Medical Library was issued.[1] During Colonel Harold W. Jones' term as Librarian, under the sponsorship of the American Library Association, and with funds generously supplied by the Rockefeller Foundation, a team consisting of Mr. Keyes D. Metcalf, Miss Janet Doe, Mr. Thomas P. Fleming, Miss Mary Louise Marshall, Mr. L. Quincy Mumford, and Mr. Andrew D. Osborn looked over the situation and found this century-old institution wanting on almost every count.

Let us consider right here one salient point: the fact that the survey was made at all, and that it was made at that particular time, is an indication that some vigorous sparks of life still remained in the Library. For this was the time when America was fighting an implacable enemy on both sides of the globe, and when shortages of all kinds were the order of the day. That the Library had administrators who realized the need for a survey, that higher government echelons had officials who recognized the importance of it, even in those trying times when guns and butter had considerably higher priority than books, and that the country and the library profession could muster the resources of time, men, and money for the survey is a matter of considerable moment. There seems to have been not a smattering of feeling that the Library was a second-class activity which could afford to await a more opportune era for rehabilitation. The need was seen, and it was met; there is no record that anyone argued for postponement. If war is terrible, it yet has a way of bring-

* Read by Lt. Col. Rogers at the 53d Annual Meeting, Medical Library Association, Washington, D. C., June 18, 1954.

[1] The National Medical Library; Report of a Survey of the Army Medical Library . . . Chicago, American Library Association, 1944.

ing important propositions into clear focus, and relegating inconsequentials to the background.

Ten years is not a long period in the perspective of history, but this decade has been a momentous one for the Library. Sometimes day-to-day appraisals, amidst a deluge of details, make progress seem maddeningly slow and the attainment of goals far distant. But after ten years, the pattern of change begins to emerge, and its extent is revealed more satisfactorily. As we look back on the report of the Survey, itemize the recommendations made, and then match them with a list of current activities and accomplishments, the results are both surprising and satisfying. If there are areas in which we have not yet reached our goal, it seems to us that these will be found to be the areas where we have not gone far enough, rather than not in the right direction. It is also apparent that although the 1944 recommendations have been realized to a large degree, this has not been, in every instance, in the exact manner proposed ten years ago. It is natural that, as the work of rehabilitation unfolded, processes themselves have had to be replanned and modified. We believe the members of the survey group would be the last persons in the world to be astonished by this fact.

The Survey Committee uncovered seven major areas of deficiency, each of which will be reported on briefly.

Management. The Survey Committee established the necessity for stability in the management of the Library, for setting up rational divisional organization of the Library, for building up a professionally trained staff, and providing for continuing, adequate financial support.

The Survey Committee was at some pains to make provisions for the continuity of direction which had been lacking because of the short terms of the officers in charge. In 1944 it recommended the appointment of a uniformed officer as Director, and a civilian Librarian. Over the years the relationship of these jobs has changed and changed again, but the fundamental objective of stability and continuity has been achieved. It may be noted that even at this early juncture the present Director has served at the Library for a longer period than any of his predecessors except Billings, McCaw, and Jones.

The Survey Committee also recommended the organization of the Library on functional divisional lines, with provision for subordinate section organization. The pattern put forward in the Survey is the pattern now in existence; an additional division, to provide for the publication of the *Current List of Medical Literature* (not an official publication of the Library at the time of the Survey), has been added.

"If the Library as a whole is considered . . ." the report stated, "the most important problem before it [at this time] is the need of continuing the work already started . . . in building up the professional staff." In 1944 the Library had a total of 69 authorized positions, and one person in five was professional.

Today the Library has 222 authorized positions, and approximately one in every three is professional. While the overall staff has increased by over 300%, the professional component has increased by 500%.

The surveyors were highly critical of the uneven and inadequate financial support which the Library had received. They pointed out that the funds for acquisition of current publications were grossly insufficient, and more important, that had the funds been sufficient, the staff was not large enough to care for the receipts. In a particularly apt phrase, the Survey Committee stated that "support of the Library is not something to be turned on and off like a faucet." The budget of the Library has always been a peculiarly difficult matter to get at, since its various appropriations come from different areas of the military structure. The estimate arrived at, however, for fiscal year 1943 was $282,500. This is to be contrasted with the estimate for fiscal year 1953, which was $1,232,500, or an increase of 440%. While support has remained at approximately this level for the last five years, the budget figures show wild swings of fortune and misfortune from year to year in certain areas, such as binding funds; on the other hand, funds for books and periodicals have remained at a satisfactory high level. We have had our troubles with personnel funds, too, suffering a painful cut just last year. As long as our space problems remain acute, however, we have a personnel ceiling which has nothing to do with fund availability.

Acquisitions. Perhaps the saddest part of the entire survey report was that which dealt with acquisitions, which made clear that the Library had fallen far behind even its then too-limited objectives. Much of the trouble was due to the lack of funds, but this was not the whole story, by any means. In his accompanying paper, the present Assistant Librarian for Acquisitions has described the progress of a decade.

Cataloging.[2] As recommended by the Survey, a Catalog Division was organized, cataloging processes were systematized, and economical methods were established for the Division's work. An Art Section, not contemplated by the Survey, has been added; whereas an Indexing Section, originally recommended, has not materialized. Careful separation of clerical and professional duties, preparation and continuing revision of manual procedures, and the utilization of forms wherever feasible have resulted in cataloging processes of considerable merit.

After a careful study of the 1944 situation the Survey recommended that three grades of cataloging be recognized in the new operation. In 1954 the Library has three grades, although they are not identical with those suggested by the Survey. Today we have: (1) Standard cataloging, which is similar to Library of Congress brief cataloging of 1944; (2) Greatly simplified AFML

[2] MacDonald, M. R. Cataloging at the Armed Forces Medical Library, 1945–1952. Journ. Catalog. and Class., 9: 58–78, June 1953.

brief, or form, cataloging; and (3) History of Medicine Division cataloging for pre-1801 publications. We were happy to see that the new cataloging codes published in 1949 legitimatized some of our 1945 cataloging decisions, and we are hopeful that the revisions of cataloging principles and rules currently being undertaken on a national basis will also legitimatize our more radical decisions relative to forms of corporate names and serial titles.

The Survey recommended that records of the cataloging produced by the new Catalog Division be made available through cooperative procedures with the Library of Congress. Ten years later, with notable assists from the Library of Congress, our catalog cards are available both on subscription and in the form of the annual printed *AFML Catalog*. Work is now progressing on the first quinquennial cumulation of the *Catalog*, covering 1950–54, which will be published sometime next year.

The Survey recommended a ten-year program to recatalog the Library. As cataloging was begun in October 1946, this ten-year period still has about two years to run, and can be expected to run for a few years more, beyond the goal originally set. Out of a total of some 146,000 titles cataloged to date, about 60,000 represent recataloging. We have completely reorganized our monographic holdings since 1920, our yearbooks, and our congresses. The Survey stated that "sorting, arranging, and cataloging the statistical and documents collection will be one of the most arduous jobs to be faced." Having recently undertaken the recataloging of the Documents Section, we are of the opinion that the Survey contains no truer words than these.

The Survey also recommended "that the Library be reclassified according to a modern scheme." The history of the development of our classification has been outlined elsewhere. It is sufficient to state here that with an enormous amount of help from outside the Library, and with continuing review and revision on the part of the Library, we established our classification on a firm footing in 1949, published it in 1951, and have used it successfully ever since.[3]

Reference Services. In the field of reference services, no figures are available from the earlier period to contrast with the total of 11,000 reference questions answered and 400 bibliographies prepared last year, but statements in the Survey point to a much more primitive scheme than is in effect now. For example: "Most questions are asked by readers who come to the Library in person . . . Inquiries by mail are the least numerous . . . Telephone calls come in at the rate of three or four a day . . . Bibliographies as now compiled are not satisfactorily done . . . The day's routine for most of the staff consists almost entirely of searching for the books requested." We do know that our readers

[3a] Rogers, F. B. Cataloging and Classification at the Army Medical Library. BULLETIN, 39: 28–33, January 1951.

[3b] U. S. Army Medical Library. Classification. Washington, Govt. Print. Off., 1951. Preface, p. 3–4.

have increased by one-third, that the items used by readers have more than doubled, that our interlibrary loans have almost trebled, and that our photoduplication requests are now coming in at a rate over five times as great as ten years ago. Such a before-and-after picture is impressive. But, like the Book of Job, where the real story is that taking place between the opening verses and Job's final acceptance of his fate, the real heart of the story is the gradual emergence in the Armed Forces Medical Library of a considered philosophy of public service, and the working out of the necessary tools for it in all divisions of the Library.

In order to give good public service we must first of all have the material, and the Library has done much to define its acquisition responsibilities, and to strengthen its holdings within these definitions. But to acquire material is not enough; it must be made available for use, both by staff and readers within the Library, and by the entire medical community. As the cataloging and recataloging of the collections has progressed, the complications of reference searches have diminished noticeably. The chances of finding a particular volume needed at the moment are far greater than in 1944. This has not come about by chance; detailed planning, both physical and intellectual, has been required. As one example of the problems of shelving in our impossibly crowded stacks and annexes, we offer the fact that in a single recent 12-month period we handled and reshelved every book in our Washington collection. To service requests under such disheartening conditions with less than 2% not locatable is an achievement. And when one considers that the speed of service has improved concurrently, and that no longer is two-thirds of the time of the reference librarians required to assist the pages in finding books, as was the case ten years ago, the record is even more remarkable.

Recataloging and rearrangement have also to a large extent made possible the five-fold expansion of the photoduplication service. Starting with the premise that the collection should be made freely available to research workers at a distance, the Library has provided several kinds of photoduplication service in the past decade. The present scheme of free photoduplicates to the Armed Forces, and a charge service to others, with the availability of free microfilm loans in some instances, has developed from the original entirely free service tried out at the Library for several years. The number of photoduplication orders prepared indicates that the service is fulfilling a real need. It does not, however, tell anything of the problems of bringing the material to the camera and reshelving it, or the physical harm to our bindings by repeated clamping in book vises, of various machines and techniques developed in an attempt to overcome these difficulties.

In 1944 the Survey prophetically averred that, as the ability of the AFML to answer reference questions became more evident, the number of such requests would increase. This has been amply borne out in fact. We have had to

increase our reference librarians from two to twelve, and to set up priorities for answering requests which come from every state in the union and from many foreign countries. It is an unhappy fact that we are still unable to accept all of the requests which we receive.

Rehabilitation. The Survey recommended a ten-year binding program to put the collections into better physical condition. To date, 120,000 volumes have been bound or rebound at the Government Printing Office and 38,000 have been repaired or placed in binders by our own workers. In addition, our Binding Section adds property stamps and bookplates, letters the volumes for shelving, and mounts pictures for the Art Section. The work remaining consists of mending, and the handling of current unbound acquisitions. No end to either of these two binding tasks is in sight.

In 1944 the Library's earlier works had been moved to Cleveland. The Survey Committee conceived of the task in Cleveland as consisting of "conservation of the collection, making an inventory of it, and laying plans to build it up systematically." All of this has been done, to varying degrees. While conservation of the collections is by its nature a continuing process, the special program of restoration and binding of our old books is now almost complete, and will be terminated in June of next year. In ten years' time, 9,000 old books have been repaired, restored, or rebound to put them into a usable state; in addition, 25,000 volumes of the 18th century and later have been bound at a commercial bindery. A cataloging program is well under way, and thousands of titles new to the collection have been acquired. In addition, reference service in the field has been offered.

The art collection has been enlarged, cataloged, and physically rehabilitated. That this is heavily used may be seen from the fact that an average of 200 pictures a month have been called for over the period of the last two years.

Publications. The Survey Committee estimated that "with the letter K being published for the fourth series of the *Index-Catalogue* in 1944, it will take approximately another ten years for the alphabet to be completed." Actually the K—L volume was published in early 1945, and the volume covering the first half of the M subjects, published in 1948, is the only volume which has appeared since. The volume covering the second half of the M subjects will appear in 1955.

In this area a radical reshaping or our activities has taken place.[4] The Index-Catalogue Division has not handled any current accessions since 1950. The volume now in preparation will be the last regular volume to appear. After a supplementary series of five or six volumes, covering the monographic materials received up to 1950, and requiring perhaps a decade to prepare, has been gotten out of the way, the Index-Catalogue Division will cease to exist.

The Survey Committee recommended that the function of the Index-Cata-

[4] Rogers, F. B., and Adams, S. The Army Medical Library's publication program. Texas Rep. Biol. and Med., 8: 271–300, Summer 1950.

logue Division should be "strictly limited to seeing through the press the material furnished by the Catalog Division." Instead, the Catalog Division has seen its own material through the press, in the form of the annual *Catalog*.

The Survey Committee further recommended "that a standard list of subject headings for medicine and its related sciences be prepared and used in connection with the future publication of the *Index-Catalogue*." Instead, the Current List Division, which took over the periodical indexing functions of the *Index-Catalogue* in 1950, last month published its *Subject Heading Authority List*.[5]

We believe it is fair to say that in this area some of the substance, if not the form, of the Survey Committee's recommendations has been achieved. With the *Current List* appearing monthly, and with half-yearly cumulations of its indexes, and with the *Catalog* appearing annually, with a quinquennial cumulation in prospect, we believe we are rendering a service to medicine which is of much greater value than anything which might have been produced within the framework of the old *Index-Catalogue* mechanism.

Building. Finally, the Survey Committee stated that "A NEW BUILDING IS AN ABSOLUTE NECESSITY," and the recommendation was printed in capitals. The situation in 1944 was summed up as follows: "The building is unsatisfactory in respect to lighting and communications for both the public and the staff . . . the entire plant is out of date and inconvenient; it is not large enough, and there is no possibility of keeping the collections together in it in the years to come . . . the toilet facilities would be considered below standard for any building, and it is only fair to say that for a medical building belonging to the government, they are little short of a disgrace."

This is a strong indictment, and ten years have served only to make it more forceful—ten years which saw the staff treble in size, and which saw the collections increase by tens of thousands of volumes. Our historical collections have had to remain in Cleveland, and we have spread out into two temporary buildings in Washington. But despite all moves, our space situation presents a a continual crisis.

We expect to get some temporary relief this fall. Then the Armed Forces Institute of Pathology, which has been co-occupant with us of our main building, will move out to new quarters on the grounds of the Walter Reed Army Medical Center. When this move is completed, the Library will take over the entire main building. This will enable us to move out of temporary buildings across the street. We will shift 150,000 volumes, the art collection, and the *Current List* operation back into the main building. But still there will be no room for our historical collections. These must remain in Cleveland for the time being.

This eventuality will make it possible for us to survive for perhaps five more

[5] U.S. Armed Forces Medical Library. Subject Heading Authority List Used by the Current List Division, Armed Forces Medical Library. Washington, Govt. Print. Off., 1954. (Available from the Superintendent of Documents at $1.75).

years. During this last period of grace we must make a supreme effort to attain the goal toward which we have struggled for so long; the new building which the Library so desperately needs must be brought into being.

This building problem has been mulled over for so long a time that in some quarters there are persons who are wearily skeptical of the possibilities of a favorable outcome; as long ago as 1920, at the 21st Annual Meeting of this Association, the Surgeon General of the Army told us that plans had been made for the erection of a new library building,[6] and similar statements have been made many times since. Sometimes the view seems to be taken that if we were to plot these points of history on a graph, and try to extrapolate to predict where we are going and when, we would have to arrive at the sad conclusion that we are going nowhere, and that the wave of the future is rolling in against us. But there are other larger and wider fields of experience to draw on. After all, the Armed Forces Medical Library did once acquire, 67 years ago, a new building. Other libraries in this country and throughout the world have acquired new buildings since that time. Despite our discouraging record in this matter during the last 35 years, can there be a pessimism so profound as to predict that we will not obtain a new building, even in the face of the ever growing need? We think not.

All we can report are the facts. In March of last year the Secretary of Defense issued a memorandum designating the National Naval Medical Center as the site for the proposed building, and designating the Secretary of the Navy as the responsible agent for planning, budgeting, design, and construction. The Bureau of Yards and Docks has now made preliminary drawings for the building, as well as several models which show the building in relation to the site selected. The Chief of Naval Operations has approved the project for inclusion in the forthcoming Navy Construction Program which will be submitted to the Congress as part of the fiscal year 1956 appropriations bill. We are happy to say that the sum to be asked for will be approximately half of what would have been required under previous plans. We are confident that the entire medical profession, and certainly all medical librarians, will lend their vigorous support. As we are not past hope, so we are not past help; we have the former; we seek the latter.

Conclusion. We believe that the Survey Committee of 1944 has a right to look with pride on the revolution they initiated, and with satisfaction on the way that it has been carried through. The tasks undertaken ten years ago still, of course, in spite of the arduous obstacles met and surmounted during the intervening years, present enormous challenges. We accept them. The Survey Committee believed that the Library should function as "the central research collection of the medical libraries of the country." To this concept, with your support, cooperation, and counsel, we will continue to adhere.

[6] Ireland, M. W. Address of Welcome. BULLETIN, 10: 1–3, July–October 1920.

The National Medical Library: Acquisition Program*

By Samuel Lazerow

Assistant Librarian for Acquisitions
Armed Forces Medical Library
Washington, D. C.

AN AGGRESSIVE acquisition program is, by definition, the basic requirement for every dynamic library. It is a truism that before books can be cataloged, shelved, loaned, and read, they must be acquired. Getting and spending may lay waste the powers of poets, but late and soon it is the primary task of the librarian who tries to build a great and useful collection of books. Building a collection requires money, a large measure of skill and ingenuity, and a certain acquisitive instinct which can survive prolonged immersion in the cold sea of fanfold forms, balance sheets, overlapping bibliographies, and painfully fragmentary source information.

The acquisition program of the Armed Forces Medical Library is of particular interest to other medical libraries, and in the very nature of things, this interest is more than the academic affair of one librarian learning from the experiences and the activities of another. Our collecting policies are so comprehensive that they permit you to limit your own acquisition programs to the kind of material which is frequently used and which it is economical and efficient for you to collect.

When the ALA Survey Committee of 1944 reviewed the situation in acquisitions, it found the Library's program inadequate in almost every respect. The Committee asserted that appropriations for acquisitions has been entirely inadequate, but its indictment went far beyond this basic fact. Its judgments ranged all the way from a statement that "acquisition of purely medical monographic and textbook material has been by no means comprehensive,"[1] to "the situation with regard to periodical holdings is all too often deplorable."[2] The kindest observation that the Survey Committee was able to make was to the effect that "there is a strong feeling that the holdings of the Army Medical

* Read at the 53rd Annual Meeting, Medical Library Association, Washington, D. C., June 18, 1954.

[1] The National Medical Library; Report of a Survey of the Army Medical Library . . . Chicago, American Library Association, 1944, p. 20.

[2] Ibid., p. 20.

Library have not kept pace with the increased volume of the literature of the medical sciences that has appeared in the past twenty-five years."[3]

There is no question but that the 1944 Survey Committee played a very important role in the renaissance of our acquisition program. It is instructive to examine the Committee's appraisal, based on detailed statistical analyses, of the acquisition performance of the Library during the period between the two world wars, and to compare this with our current situation. The Committee analyzed three types of material: current periodicals received, national and international congresses, and recent book acquisitions.

In the field of current medical periodicals received, the Committee pointed out that during a 30 month period, while the *Quarterly Cumulative Index Medicus* was adding 345 periodical titles, of which 99 were newly published, the Army Medical Library was receiving only 84 of the total and only 31 of the new periodicals. This gave us a batting average of about 250, which is better in baseball than in librarianship.

Now contrast this with our increased activity in this field today. At the present time we are receiving over 10,000 serial titles, of which over 4000 may be classed as true periodicals, and this is four times the amount being received ten years ago. The number of serial pieces checked into the Acquisition Division rose from 26,000 in 1944 to almost 90,000 in 1953. And the most remarkable fact is that we have been adding over 150 new serial titles, on an average, every month for the last five years.

As for the second area in which the Survey Committee considered the Library's acquisition activity deficient, that of national and international congresses, we must confess that it is possible to report at this time only the beginning of an organized program. Our efforts in this field since the time of the Survey have hardly gone beyond the normal checking of national and trade bibliographies. I can say, however, that we have now begun to exploit excellent sources of information about this elusive class of publications and we have recently entered into agreements with other libraries providing for a full interchange of information.

In the third category of materials, that which the surveyors called Current Book Acquisitions, we can view our present situation with a good deal more confidence. One of the Committee's studies indicated that the Library had in 1944 no more than 55% of the new books listed in *QCIM* volumes for the 1930's. A similar study today would indicate that we now have 97% of the books listed in the most recent volume, plus a great many more which are not listed there.

This comparison does not tell us much about how successfully the Library has dealt with the Committee's assertion that "there is a considerable time-lag

[3] Ibid., p. 19–20.

between the publication of a medical book and its acquisition by the Library."[4] Later in this paper I shall describe methods we use to insure that we receive medical books as soon after publication as possible. Here I merely want to report that in 1944 we received less than 5000 monographic items, and in 1953 we received over 13,000 items in this class, or a gain of 266%.

So far I have been dealing with the Survey Committee's findings on the state of the Library's collections, and I have said that these findings are a major stimulus in the renaissance of our acquisition program. A second and perhaps more important factor was the vigorous reaffirmation by the Committee of the historic mission of the Library, that the "Library should acquire on publication, or as soon thereafter as possible, all publications, in all languages, directly relating to the science of medicine."[5] In the related sciences the Committee said that "strong working collections of the important books required for reference rather than research work should be selected."[6]

The Committee's recommendations were thus couched in very general terms, but they were strong terms, backed by its enormous prestige. As a result the acquisition program took on new life, and the next year, the number of books and serials acquired almost doubled. The very nature of this increased activity and the absence of sufficiently detailed principles of selection made it almost inevitable that some material would be acquired which did not really belong in the collection. This was realized at the time and during the next few years occasional efforts were made to improve the situation. It became increasingly obvious, however, that nothing short of a complete analysis would solve the Library's selection problems. Accordingly, in November 1949, the Director appointed a Committee on Scope and Coverage, which was instructed to redefine the fields in which the Library should collect and to determine the desirable coverage within these fields.

The recommendations of this Committee form the basis for a policy statement issued by the Director—Library Order No. 3, dated February 6, 1951. This Order, together with a number of supplementary statements, comprise our canons of selection. It may be well known to some of you; but for the benefit of those who know of it only in a general way I should like to summarize the important provisions.[7]

Library Order No. 3, like the Survey Report, recognizes that there are fields in which we must collect on an inclusive basis and others in which our collection should be selective. But the Order goes into greater detail than the Survey, in

[4] Ibid., Unpublished Appendixes, p. 45.

[5] Ibid., p. 66.

[6] Ibid., p. 67.

[7] For some interesting observations on this problem see: Groesbeck, Joseph. Some problems of scope and coverage. BULLETIN, 39: 97–101, 1951.

line with its expressed purpose to "define the scope of the collecting policy of the Army Medical Library, to specify the degree of coverage to be sought in each field defined as being within scope, and to provide for intelligent reshaping of the collections assembled in the past."[8]

The Order sets up four levels or degrees of coverage, in ascending order as follows: Skeletal, Reference, Research, and Exhaustive. A skeletal collection is one that merely takes cognizance of the subject. A typical subject would be inorganic chemistry. In such, a dictionary, one or two outstanding texts in the latest or best edition, and a history of the subject, would suffice. For a subject admitted at the Reference level—anthropology for example—we should want one or more up-to-date dictionaries, an encyclopedia, several texts in the latest or best editions, a comprehensive bibliography, one or more basic journals, and one or more histories of the subject. A research collection is one that is considered adequate for independent investigation comparable to university doctoral standards, and includes most of the books, pamphlets, periodicals, and government documents in the commonly used languages in the latest or best editions. A representative subject is Physical Training for Soldiers.

There remains the fourth category, the exhaustive collection, one which includes, and I quote from the Order, "everything written in the field—books, pamphlets, periodicals, abstracting and reviewing media, government documents, loose-leaf systems, congress reports, Festschriften, dissertations, symposia, institutional reports, school catalogs, leaflets, broadsides, notices, etc.,—whether printed, near-printed, typewritten, or in manuscript, in all languages, of all time, and in all editions. . . ."[9]

It is evident that almost all the publications kept by the Library will fall in the Research and the Exhaustive categories, and that these will constitute the essential corpus of the collection. In actual practice we find that the great majority are in those subjects that are admitted exhaustively. These subjects can be enumerated quickly. At the center there is the practice of medicine. Our Library Order quotes the dictionary definition "The science and art dealing with the prevention, cure, or alleviation of diseases," and goes on to say "As here defined, medicine includes . . . surgery, nursing, dentistry and dental hygiene, pharmacy and pharmacology, physical therapy, psychiatry, medical technology, and the non-standard explanations of disease such as chiropractic and osteopathy."[10] Also admitted exhaustively are the immediately sustaining non-clinical disciplines of human anatomy, physiology, biochemistry, bacteriology, immunology, parasitology, and pathology, and the excursive but still

[8] Library Order No. 3, dated 6 February 1951, Subject: Scope and Coverage of the Collections (Mimeo.) p. 1.

[9] Ibid., p. 2.

[10] Ibid., p. 2.

closely related interests of medical folklore, and customs relating to physicians and surgeons.

Moving out from this central core of subjects, we encounter a number of others which were assiduously collected during the early part of the Library's existence, but which the Scope Committee, after sharp scrutiny, reduced to a relatively unimportant position. The most conspicuous examples of these are anthropology, veterinary medicine, and sanitary engineering, in all of which the Library had collected heavily from the beginning. The Scope Committee acknowledged that anthropological studies often possessed psychiatric and anatomic interest, that veterinary medicine offered much in the way of comparative pathology and sanitation, and that sanitary engineering contributed to preventive medicine. But it also recognized that certain other large libraries, notably the Library of Congress and the Library of the Department of Agriculture, had a more pertinent responsibility for these subjects as such, and that ours was satisfactorily discharged if we acquired sound reference collections in these fields.

Library Order No. 3 also concerned itself with the priority of acquisition. It directed that current serials, as the most important materials acquired by a research library, receive first priority, and that current and recent monographs should come next. Third priority is assigned to filling gaps in our serials collection, and the lowest to historical and out-of-print literature.

Incidentally, our current preoccupation in this last area is in the field of Americana, in which the Survey Committee found that the "Army Medical Library is much weaker . . . than it should be."[11]

Now as to the manner in which we are organized to locate and acquire published materials. The Survey Committee's general recommendation was that the Acquisition Division "restrict its activities to the acquisition function and concentrate on a vigorous program of building up the Library's collections systematically."[12] Within several months after the report was submitted, such extraneous functions as responsibility for supplies and accounts were removed, and the Acquisition Division was ready to devote all its efforts to its proper pursuit.

In the ten years since the Survey Committee's activity we have grown from a staff of six people to one of twenty-nine people. In order to cope with our increased work-load, even with this increased staff, we have had to devise new methods. One of the latest is the use of the camera to eliminate or reduce typing in our procedures. By means of this system, which I hope you were able to see in our exhibit yesterday, we have reduced considerably the time-lag between publication of a book and its receipt in the Library, we have freed our staff for further work, we have cut down on errors due to manual copying,

[11] The National Medical Library. Op. cit., p. 87.

[12] Ibid., p. 67.

and we have been enabled to keep up with the enormous product of current medical publishing.

How do we find out about this product? The Survey Committee felt that the problems of locating the pertinent literature would be solved by our entering into blanket order arrangements with competent agents in the principal countries of the world to supply medical books on publication, and without waiting for an order. The Acquisition Division, the Committee report continued, "could then concentrate on supplementing the work of these agents, paying particular attention to government documents and other 'not-in-the-trade' publications, and in addition it could cover fully those countries for which such arrangements cannot be worked out."[13]

Unfortunately, after a number of years' experience with this system, we found that it did not come up to the hopes of the Committee, and was actually very expensive to administer. In 1951 the performance of the most important of the Library's 48 blanket order agents was analyzed and found extremely deficient. Since it was apparent that in order to insure complete coverage, a follow-up would have to be made anyway, it was finally decided "to give up the device of the blanket order wherever the book trade was normally well organized, where there were no peculiar difficulties of communication and where currently published material was adequately recorded in a national or other bibliography."[14]

Today our most important sources for the location of medical literature are the national bibliographies, of which we now regularly scan fifty. Our selections are made, and orders for materials which have to be purchased are then sent to our agents, of which we have 86 covering 79 countries. Of course, if it is at all possible to obtain publications either by gift or by exchange, we attempt to do so, sending our requests directly to the issuing agency.

For those countries where the bibliographical apparatus is either unavailable or non-existent, we have to employ other mechanisms, such as the blanket order device, to locate the medical publications.

For not-in-the-trade items we have to improvise to fit the individual situation. Of course, we ask our dealers to notify us of such items, and we have taken advantage many times of our very extensive exchange contacts. We also examine subject bibliographies and any other lists which might yield items we would not otherwise find out about. For a more complete description of our methods, I refer you to Scott Adams' excellent 1947 paper on "Sources of Acquisitions."[15] We are still using most of the sources he described in that paper.

[13] Ibid., p. 68.

[14] Army Medical Library. Annual Report for the Calendar Year Ending 31 December 1951. Washington, 1952, p. 19.

[15] Adams, Scott. Sources of acquisitions. BULLETIN, 36: 178–183, 1948.

As for financial support, I assure you that we have come a long way from the days when, as the Survey Committee put it, "Appropriations have not been sufficient to make possible a satisfactory acquisition program."[16] Funds now made available to us by the Armed Forces for acquisition purposes are adequate for us to purchase all the products of current publishing in the field of medicine that we have been able to locate. And in addition we have been able to make generous provision for purchases in the early literature of medicine.

Altogether, we believe that the present state of our acquisition program is a far cry from the conditions which the surveyors found in 1944. We hope that what we have now is fairly close to what the surveyors said they would like to see. This much we know: The percentage of the world's production of medical literature which we are receiving is as close to one hundred per cent as we now know how to get. The rationale under which we operate—our policies on scope and coverage—has been defined in a document which serves us well as our canons of selection. Financial support of our acquisition program is no longer being turned off like a spigot this year and opened up again next year, as the Survey Committee lamented. But even all this will mean little in terms of continuity of the Library's programs, if we do not always keep on the alert for new methods and new sources. Although like most goals, ours can perhaps never be completely realized, we have confidence that we are coming closer each year to our goal as the National Medical Library—the complete coverage of all medical literature published in all countries of the world.

[16] The National Medical Library. Op. cit., p. 21.

Basic Elements in the Planning of a New Building for the Armed Forces Medical Library*

By John A. Oley, LCDR, MSC, USN

Special Assistant to the Director
Armed Forces Medical Library
Washington, D. C.

PLANNING a modern library building requires a study of what is done in the library, by whom, and in what way. Only after that has been determined can the detailed work be undertaken to translate the library's functions into a usable building. Before the architect must, therefore, come the surveyor; what he finds he turns over to the architect to translate into a workable plan for a building that will be useful, practical, economical, esthetically pleasing, dignified, and, above all, responsive to the needs put on it today and in the future. This is important for all libraries of whatever size, but naturally it is vitally important in a large library where an ill-considered plan may cost millions or make large numbers of people unhappy in their efforts to execute their assigned tasks.

Just over a year ago I was assigned to the Armed Forces Medical Library to help in planning a new library building, and to this end to work with the Library staff, the Bureau of Medicine and Surgery (BuMed), Department of the Navy, and the Bureau of Yards and Docks (BuDocks) (which is the Navy's Engineering arm). The results of my survey of the various basic elements considered to be essential in determining the building requirements have been discussed with the Director and staff of the Library, BuMed representatives (Planning Section), then finally transmitted to BuDocks for the development of "Advanced Planning," wherein cost data and building design suitable to the topography of the site are prepared for budget presentation.

No two libraries function in exactly the same way. For that reason it is wise to write out the following information for your library:

1. Mission—what you are trying to do.
2. Organization of the library.
3. Work-flow charts.
4. Space criteria.
5. Physical contact relationships.

* Read at the 53d Annual Meeting, Medical Library Association, Washington, D. C., June 17, 1954.

6. Traffic patterns.
7. Public services.
8. Special features.

Mission. An up-to-date, clear and concise statement as to the mission of the activity is of prime importance, since it will outline to the planner the services for which he must make provisions.

Organization. A chart of organization which will indicate clearly the lines of communication for line and staff activities will show who reports to whom.

Work-flow charts. Every work assignment carries with it specific steps which must be followed before a process can be considered completed. Big business and government have for many years charted the flow of work processes for a number of reasons, such as, determination of the time it might take to do a certain step, simplification of a process by eliminating one or more steps, obviating of unnecessary retention or stoppages, and determination of traffic patterns for a "straight-line" flow rather than one where people and pieces of material criss-cross their own paths unnecessarily. Here the planner has his greatest opportunity to achieve a plan which will be functional, economical, and efficient in operation. For example, he can plan his desk spacing or he may relocate an entire section, bringing co-workers together, and eliminating excessive travel. I would like to emphasize the importance of this procedure in the formation of basic plans either for a new building or additions.

Space criteria. Since this one item will determine the ultimate cost of the building, it naturally follows that great pains should be taken not to inflate the actual requirements for space. A good goal to bear in mind is "Minimum Spacing for Maximum Space Utilization."

Here several factors must be considered, the most important being:

1. The size of the present collection;
2. The annual acquisition rate;
3. The annual withdrawal rate (if a factor).

This information should be formulated into a table with a year-by-year breakdown which shows the size (estimated) of the collection at any given year. This is the time to arrive at a firm decision as to the size of building which will be required to house a collection for a 25-year period, or a 50-year period, or longer. At the Armed Forces Medical Library, for example, we decided that our minimum requirements would be met with a building designed to house our collection over a 50-year period. A glance at our table (which is on exhibit) will readily show the reasons for our thinking, since it is apparent that a 25-year building would give us a margin of only eleven years before it would again become necessary to start planning for an addition. This is due to the fact that our present collection (if we could move into a new building today) would occupy more than 58 percent of the stack area of a 25-year building, and planners (and librarians) are well advised to start agitating for additional space or develop a strong withdrawal program when their stack areas are 75 percent full.

As in most libraries, the Armed Forces Medical Library stack areas were determined by the use of the "Cubook" formula devised by Henderson[1] and reported in the *Library Journal*, November 15, 1934 and January 15, 1936.

The question of the wisdom (from an economy viewpoint) of having so much shelf space immediately available when it will take as much as 50 years to fill it all will naturally arise. Observations show, however, that many manhours are expended each year in moving books from one shelf to another to make room for new acquisitions. A plan of having 50 percent of each shelf empty to start with will work by enabling us to grow into the building year by year. The savings realized over the years will be far greater than the cost of the shelving required for the stack area.

Having decided how many years of stack expansion were desirable, our next problem was that of determining the space requirements for each division and section of the Library. There is a rule-of-thumb formula of assigning so many square feet of space to each individual, but this is impracticable in libraries, since it does not take into account the use of book trucks and other special devices. It is obvious that sufficient space must be provided not only for a desk but also for a book truck, and this in turn implies enough space for passage, storage, and turn-around of the trucks. Here the work-flow charts come in handy, for they tell you where books go and why.

So, using the old Chinese proverb that "one picture is worth 10,000 words," we prepared schematic drawings of each division and section, showing the space requirements for each individual. Such drawings do not require the services of a trained draftsman—all that is required (and it is readily available in any of the drafting supply houses) is a "template" or cut-out of all items of furniture which is scaled to $\frac{1}{4}'' = 1$ foot. Study the work-flow chart for a division, set out your desks with the necessary working equipment around them, allow for aisle spacing and, where book trucks are being used, allow for storage (stopping) and turn-around space. When you have completed this step, draw a line around your drawing and you have the space requirements for that particular activity. Here we are not concerned with the space that will be taken up with columns, radiators, or other appurtenances; we are interested only in determining the gross space requirements for an activity to perform its function in an efficient manner. Incidentally, if you follow this practice, you will also be provided with an accurate list of equipment required in your activity.

When planning has progressed to this stage, it then becomes necessary to solve another problem—should the building have solid internal walls, should it be left open, or should there be movable-type walls? Whatever is done at this time will determine the future course of the library. The use of solid walls will

[1] Henderson, R. W. Bookstack planning with the Cubook. Lib. J., 59: 865–868, 1934; 61: 52–54, 1936.

greatly limit any future expansion or reorganization of the library; the use of great open spaces has many desirable features but it does not answer many important problems. It would appear that only one course of action remains—to provide movable-type partitions (whether steel or wood will also have to be decided) wherever partitioning will be required. This was the solution in the case of the Armed Forced Medical Library, and now we are planning for a building which will allow rapid changes within its shell at a fraction of the cost of one where solid walls would have to be removed or cut.

Physical contacts. Having come all this way, the next step, and it is an important one too, is to determine where to locate any particular portion of the library. The organization chart discussed earlier will give a partial answer, but it will not give much help in deciding the internal relationships relative to public services rendered by your library. A careful and detailed study of these services, plus a chart based on *actual physical* daily contacts of every individual within the library should be made. The chart developed for the Armed Forces Medical Library is on exhibit. This chart reveals the contacts each activity has with every other activity. With such information it is then possible to place an activity in a definite area, and then back up that position by showing that the activity was placed where it was because of its usage by the public or staff, rather than because of whim or other non-essential reasons.

Special features. Today's world is one in which great consideration must be given to means of survival. In the case of libraries, special types of construction should be considered, in the interests of protecting our library heritage. I am, of course, alluding to the destruction which can be caused by bombs or by natural hazards such as fire. We at the Armed Forces Medical Library would be remiss if we did not plan a building which would provide the utmost protection from the natural and man-made ravages. To this end, we have planned a structure in which the *entire* book stack areas are placed within a bomb-blast proof shell of reinforced concrete, perhaps even buried or placed in a natural or man-made depression. There will be no window openings within this shell; instead, air conditioning and dehumidification will be provided. A major portion of the "technical services" area will be located over the stack area forming an additional protective layer, and this area will be provided with window openings to furnish natural lighting for these spaces in addition to other lighting. This area will also be air-conditioned and dehumidified.

I have given you a quick view of some of the problems in planning for a large library building. You may also be interested in seeing the early plans which have come out of my surveys. Several of them, prepared by the Bureau of Yards and Docks, are on exhibit. They are by no means the final plans; they are primarily for use in estimating the costs for budget purposes, and to permit closer study by the Director and Library Consultant. But they are useful working drawings. We invite your comments on them.

Proposed Plans and Recommendations for the Organization of the Medical Library of the University of Florida

By William D. Postell, *Librarian*

Louisiana State University School of Medicine
New Orleans, Louisiana

In PLANNING for the new medical library of the proposed medical school at the University of Florida the question has arisen regarding the best type of administrative organization for the library. The question involved is not a new one in university library organizations, since librarians and university authorities have taken two viewpoints towards the type of administrative organization they feel will render the most efficient and adequate library service. These two viewpoints are referred to as centralization versus de-centralization. There is a wealth of literature on the subject written by proponents of both systems. That neither system has dominated the thinking of university administrators is attested to by the variety of ways universities today are administering their departmental, professional school, and laboratory libraries. As a rule, libraries of professional schools, such as medicine, law, dentistry and pharmacy, and, in some cases, engineering are separated from the central library administration, while departmental libraries, as history, chemistry, geology, and education are part of the central university library system. Professional school or collegiate libraries as found in universities are organized to furnish the material needed by the students and faculty of a particular school. Such libraries are composed of several thousand volumes and are administered by a special library staff. A departmental library is much smaller in scope and is organized to meet the needs of some teaching division of a university. Such libraries are served by one professional assistant, all technical services being performed by the functional departments of the main university library.

Although some medical libraries are organized on a departmental basis, for example the University of Virginia, there seems little question that this medical library will have to be organized on the collegiate level. To supply teaching and research material for students of medicine and nursing, faculty and research workers of the medical school, practitioners of medicine in Florida, residents, internes, and technicians of the hospital entails a beginning library of 20,000 volumes with an intermediate goal of 40,000 to 50,000 and an ultimate goal of 100,000 volumes.

Collegiate libraries are of three types which are enumerated below. The first two types represent centralization and the third, de-centralization.

1. The medical library is organized as a part of the central university library system, all technical or some technical services being performed by the functional department of the university library. Readers' services are cared for by a professional staff. The medical librarian is responsible to the Director of libraries. The budget for the medical library is a part of the central university library budget.

Examples: University of California at Los Angeles, University of Minnesota.

2. The medical library is organized as a part of the central university library system, however, functioning as a separate unit. All technical and readers' services are performed by the staff of the medical library under the direction of the medical librarian. The medical librarian is responsible to the Director of libraries. The budget is part of the central university library budget.

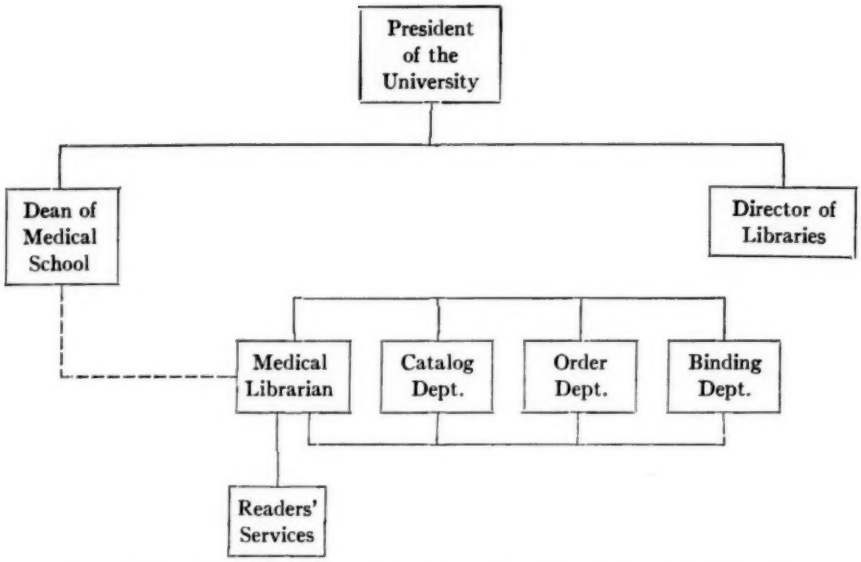
Example: University of Illinois.

3. The medical library is organized as part of the medical school. All technical and readers' services are performed by the staff of the medical library under the direction of the medical librarian. The medical librarian is appointed by the Dean of the medical school and is responsible to him. The budget of the library is part of the budget of the medical school.

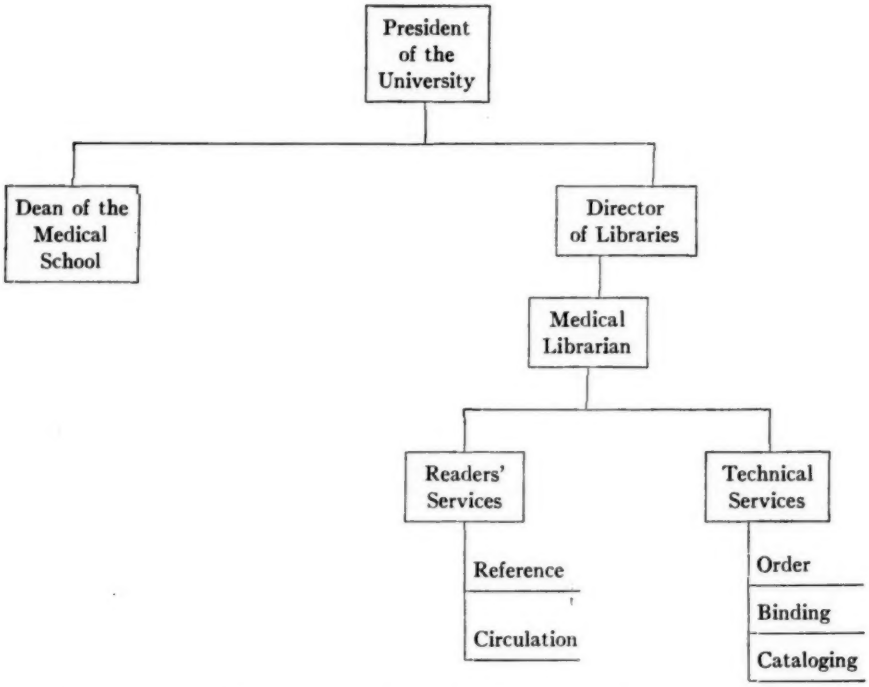
Examples: Harvard University, Temple University.

As we can assume that the possibility of organizing the medical library as a departmental library is not being considered, the question of the best organization for a collegiate medical library can now be discussed. But before discussing the advantages and disadvantages of each organization, it is well to mention briefly some of the principles of medical librarianship. Basically, medical librarianship deals with information that concerns the health of man. The all important function of a medical library is service. To accomplish this end a library must have adequate coverage, and something more, that is the quickness with which the patron and his book may be brought together. A surgeon reviewing for an emergency operation cannot afford to wait for a book to be ordered or the return of a journal from the bindery. Material on the latest advances in medicine must be always available. In order that this material should be more readily accessible, stacks should be open and rules governing loans should be held to a minimum. With these factors in mind, speed, adequate coverage, accessibility, and use of the material, which of those organizations proposed for a collegiate medical library can best serve the purpose of medical libraries? We have two proposals: One in which the medical library will be organized as a part of the central university library system with some different procedures for performing technical processes, (Charts 1 and 2) and the second, in which the medical library will be organized as a part of the medical school. (Chart 3)

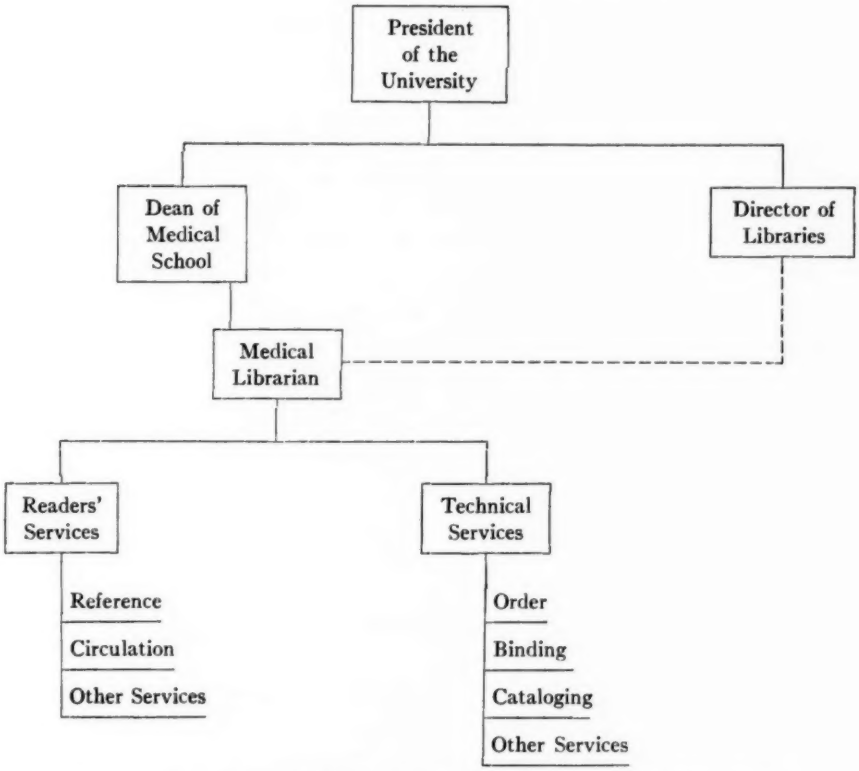
The first organization to be considered is a collegiate medical library or-



ORGANIZATIONAL CHART NUMBER ONE OF A COLLEGIATE MEDICAL LIBRARY



ORGANIZATIONAL CHART NUMBER TWO OF A COLLEGIATE MEDICAL LIBRARY



ORGANIZATIONAL CHART NUMBER THREE OF A COLLEGIATE MEDICAL LIBRARY

ganized as a part of the central university library system responsible to the Director of libraries where the technical services are organized under the functional department of the central university library and readers' services under the medical librarian. (Chart 1) This seems to be bad administration practice since there is a divided responsibility. Cataloging and binding procedures tend to slow down in larger systems which would hinder the speed with which material should be made available. Classification and cataloging could not possibly be done as well by a cataloger removed from the actual service end of the library. Medical books are difficult to classify and the cataloger can do a much better job if he is aware how books are used and requested. Binding cannot be done fast enough. The absence of current journals is a great handicap to any medical library. Speed is all essential here. There is always the possibility that if these processes are handled outside of the medical library the importance of speed will not be appreciated. In view of these factors it seems logical that the collegiate medical library should be organized as a unit with all technical services and readers' service being performed by a staff responsible to the medi-

cal librarian, who will be able to administer and coordinate all services to better advantage.

The next problem to be considered is whether the medical library should be organized as a part of the central university library system (Chart 2) or as part of the medical school (Chart 3). This involves the fundamental concept of centralization versus de-centralization in the organization of university libraries. In the case of the University of Florida, the constitution does state that the Director of Libraries shall be in charge of all libraries, but in actual practice the organizational chart of the University shows the libraries of the Law School, Agricultural Experiment Station, and General Extension Division as separated from the university library system and under their respective Deans or Directors. Therefore, the University of Florida is not without precedent in organizing its medical school library as an integral part of the medical school. The advantages of organizing the medical library as part of the medical school with the librarian responsible to the dean will now be discussed.

Service from the standpoint of adequate coverage is conceivable under either system; a workable collection could be organized and administered. Acquiring such a collection though is costly. It is very difficult to obtain comparable figures. Two midwestern universities, which requested that their names not be used, reported budgets of $32,360 and $19,000. These libraries were organized under the university library system. Illinois, organized under a similar system, reported a budget of $72,000 to service a library composed of medicine, dentistry, pharmacy, and nursing. On the other hand, libraries organized under the medical school reported budgets as follows: Emory, $48,161; Texas, $39,000; Alabama, $53,120 (medicine and dentistry); and L. S. U., $37,549. (1) It seems logical to assume that a medical library organized as part of a university system may have difficulty in obtaining an adequate budget since its budget requests will be so much greater than any school or departmental library in a university system, while in comparison to a department in a medical school the requests for the library will not seem very large or out of proportion to the rest of the budget. The Davis Report calls attention to this factor at two medical schools. (2)

The speed in which the patrons may be served may or may not be a factor in the two organizations. The all-important factor of speed in serving all phases of medical library activity is, however, less likely to be hampered in a smaller organization.

The most important factor in organizational planning is accessibility and use of the material. If medical libraries are required to adhere to the rules of closed stacks for undergraduates and other restrictions of university library use, then accessibility will be a very great factor in deciding on either system of organization. It is true that while medical libraries under medical school control do have open stacks, it is not always true in medical libraries under university library

systems as demonstrated by the closed stack policy in force at the University of Minnesota and the University of Chicago. At this point it is well to quote the principles involved in the organization of the Duke Hospital Library which is the library for the medical school of Duke University:

> A library is used and appreciated in proportion to its accessibility and its freedom from hampering rules. To encourage the use of the Duke Hospital library, it was located in the medical school building, and rules have been kept to a minimum. An evil inherent in many libraries is the denial of the use of the stacks to students. . . .(3)

In measuring the use made of material under each system it is very difficult to use circulation figures as a unit of measurement since such figures are kept so differently in libraries. In her survey of medical libraries Miss Davis was very favorably impressed with the service rendered by the medical libraries of Northwestern University, University of Illinois, University of Oregon, Emory University, and Louisiana State University. Of these libraries Northwestern, Emory, and L.S.U. are organized as part of the medical schools, while Illinois is a part of the university library system and Oregon is a separate system organized as a division of the Oregon State System of Higher Education. (4)

It is sometimes argued that unnecessary duplication of material may be best avoided in a unified system. A question of duplication will not be a serious one in the medical library. All the clinical material, which includes about 85 per cent of the collection, will certainly not be duplicated. In the basic sciences not so much will be duplicated as first thought. Of the 79 basic science journals subscribed to by the L. S. U. medical library, only 37 are duplicated in the main university library and this is even more significant when it is realized that the two libraries are located in different cities. Book material is surprisingly little duplicated as reported by the Associate Director of Libraries of L.S.U. (5) Unnecessary duplication can be easily avoided by maintaining a union catalog of all basic science material as is practiced at L.S.U.

In summarizing this discussion it may be well to point out that administrative efficiency is usually the strongest argument for the centralized system, but as Bennett Harvie Branscomb pointed out, "Efficiency has no meaning except with reference to the accomplishment of some particular end." (6) The end in this case is serving the patrons who are interested in acquiring knowledge for the betterment of the health of man. The important factors here are speed, adequate coverage, which implies an adequate budget, accessibility, and use. These factors favor de-centralization for efficiency.

Before concluding it is well to review the opinions of university, special, and medical librarians on centralization versus de-centralization, and also to examine some of the surveys of medical libraries that have been made. The following comments are those of university librarians:

> The basic principles of organization and administration of the university library apply

directly to departmental and professional school libraries. . . . All libraries on the campus should be administrative parts of the general library . . . there is some indication that the subject or divisional arrangement may become more widespread in the future. Because so many variables are present, it is difficult to say whether a particular library system should be organized on a functional or subject basis. (7)

In most cases, these separate libraries serve the graduate or professional departments of the University. The factors of adequacy, use of books, and accessibility combine here to offset the pressure toward centralization exerted by the arguments on cost and interrelationship. . . . Approaching the problem of centralization versus decentralization as realistically as possible, I cannot but conclude that centralization is the better policy for the college library or for the university library that is called upon to serve a limited number of students working for the doctorate. The institution with a research and full graduate program is obligated to make such deviations from a policy of centralization as local conditions demand and as the budget permits. Without question, there is a trend toward separate libraries in large universities. (8)

It is clear . . . that the departmental library problem can never be settled in general terms, since one must balance general interests against special interests, consider local factors and give attention to question of costs. . . .

Thus, though departmental, divisional or special libraries will often be practical and desirable, each such proposal calls for special study of the particular facts involved. . . . The necessity ofttimes of combatting a policy of over departmentalization has tended to make librarians unduly negative in their attitude toward special situations in which they could render invaluable service. (9)

Coordinated Decentralization. Perhaps the essential feature, as suggested at the outset, is flexibility. Individualism naturally brings a certain amount of inefficiency, of unsatisfactory service into units that are too small, of inconvenience for those whose work does not fall wholly within an established field, and of duplication, though the union catalog makes it possible to forestall much unnecessary duplication and to reduce that which has already taken place. But the middle of the road of "coordinated decentralization" brings freedom to meet the needs of scholars, and to utilize a maximum amount of faculty interest and enthusiasms, and to maintain economical systems of cataloging and records. Harvard administrators are by no means ready to agree with Mr. Branscomb that, as opposed to the often-repeated advantages of decentralization, there is "virtually a single argument, the desirability of getting directly at the books needed in one's work." (10)

The special and medical librarians commented as follows:

Whatever may be said against the departmental library as a factor in scattering the collection of the main library, its function in maintaining a live collection of materials in a special field, in serving intimately a group of faculty and students that might otherwise have only the impersonal and often hurried service of the general loan desk or the too limited service of a reference department, and in affording ready access to materials for both research and study, has been important. . . . The professional school library performs to an even greater degree the previously mentioned functions, but, more than that, it serves as a laboratory. The very success of training depends on the immediate availability of accumulated facts and recorded experience that the student needs in order to develop professional knowledge. . . . Because of the nature of its materials and purpose, the professional school library can never become any more than affiliated with the general library. (11)

It is of paramount importance that the medical librarian derives his authority and responsibility directly from the top administrator of the unit of which the library is a part. . . . It would seem after a careful, if not unbiased study of the extensive literature on the subject, that the university librarians have themselves, in some cases unwittingly, answered the question in favor of the separate medical library. (12)

In reviewing these comments it is interesting to note that the university librarians with one exception favor the central university library system although they qualify their statements where such factors as graduate and research programs, and subject divisions are concerned. Special and medical librarians favor the separate library.

In planning any organization it is well to know how others have met the same problems. A committee of the Medical Library Association recently conducted a survey of medical school libraries. This report read at the Annual Meeting of the Association in June, 1952, gave the following information: (13)

Those libraries organized under the Dean of the medical school or a committee of the medical faculty	46
Those libraries organized as a joint responsibility of both the Dean of the medical school and the Director of libraries	22
Those libraries organized under the Director of libraries	11
Those libraries organized as a complete separate institution	1

From this survey it is apparent that the large majority of the medical schools have solved their organizational problem by organizing their library as a part of the medical school. A minority have their medical libraries organized under a joint responsibility and the smaller minority under the main university library. It is a traditional or common practice to organize medical school libraries as a part of the medical school.

Probably the best argument for the medical library to be organized as a part of the medical school is how well it has worked. This can be shown by a survey conducted by the Council on Medical Education and Hospitals of the American Medical Association. This report, published in 1940, was a survey of all phases of medical education, and shows the status of medical school libraries. (14) The report made this important comment:

> With one exception, the ten highest medical libraries, ranked according to general support received, were centrally placed units in the medical school, not dependent on the main university library for staff, space or finances. In other medical schools, where the medical library was but a part of the university library, extensive departmental units were developed. (15)

This report in summary gave the following characteristics of the ten highest ranking medical school libraries. (16)

> The budget exceeded the median $7,230.*
>
> Housing was centrally located, afforded seating for about one fourth of the student body, cubicles for students, suitable work rooms, and adequate stack space for expansion to 100,000 volumes.
>
> The personnel consisted of trained librarians with staffs of from four to sixteen workers. A major obligation of the librarians was the instruction of students in medical bibliography.
>
> Reference material exceeded 50,000 volumes and 500 or more periodicals.
>
> The number of volumes loaned to each student and the number of visits by each student annually were in excess of the median.

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* Comment: This was in 1940 and refers only to purchases for books, binding, and subscriptions.

SUMMARY AND RECOMMENDATIONS

1. The University of Florida is not without precedent in organizing its medical school library separate from the university library system and as part of the medical school since the Law, Agricultural Experiment Station, and General Extension libraries are organized as part of their respective schools.

2. The medical school library should be organized as a collegiate library and not a departmental library.

3. The medical library should be organized as a unit with all service organized under the medical librarian responsible to the Dean of the medical school.

4. The medical school library considered from the standpoint of the principles of medical librarianship is better able to adhere to these principles if organized as part of the medical school. The principles here are speed in serving patrons, adequate coverage, which implies an adequate budget, accessibility, and use.

5. In reviewing comments of university and medical librarians, the university librarians with one exception favor the central university library system although they qualify their statements where such factors as graduate and research programs, and subject divisions are concerned. Special and medical librarians favor the separate library.

6. A survey conducted by the Medical Library Association shows that a large majority of medical school libraries are organized under the Dean of the medical school. Therefore, this is the traditional or common practice for the organization of medical school libraries.

7. The report conducted by the Council on Medical Education and Hospitals of the American Medical Association shows that the ten best medical school libraries with one exception were those organized under the Dean of the medical school.

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A Galaxy of Old Japanese Medical Books With Miscellaneous Notes on Early Medicine in Japan

Part II. Acupuncture and Moxibustion. Bathing, Balneotherapy and Massage. Nursing, Pediatrics and Hygiene. Obstetrics and Gynecology.

By Gordon E. Mestler

Department of Anatomy, State University of New York College of Medicine at New York City Brooklyn, N. Y.

PART I of this paper, which appeared in the July issue of this Bulletin, detailed or called attention to certain basic writings in the medical literature of Japan of an historical or biographical nature, together with references to or reviews of important works in the pre-clinical sciences of anatomy, physiology, and pharmacology. The present part of this paper continues this biblio-historical account of Japanese medicine with regard to various clinical categories, again with particular emphasis on the early (pre-Meiji) works, some of which the writer was fortunate enough to find while hunting books in Tōkyō and Nagoya.

The unraveling of the bibliographical threads in the tapestry of the medicine of early Japan and its literature has turned out to be a somewhat more complicated process than was at first anticipated by the writer. As a consequence of this, the short-title check-list of Japanese (and Chinese) medical books, promised for Part II of this paper, must be delayed for publication at a later date.

Acupuncture and Moxibustion (Moxa)

Apart from the use of early medicines, probably the most ancient forms of medical treatment in Japan were those concerned with *acupuncture*, the insertion of needles into the skin and subcutaneous tissue to varying depths; and the use of *moxa*[1] or the process of *moxibustion*, the burning of a combustible plant—usually mugwort (Artemisia vulgaris latifolia)—on or against the skin. Each of these treatments were derived from ancient Chinese medicine, and originally each was apparently based upon a quaint belief: for *acupuncture*, that the cause of the disease was an evil spirit imprisoned within the body

[1] *Moxa* (or, more correctly, *mogusa*) is one of the very few Japanese words which have been taken over into the English language.

which could be released by "opening the way" and making its escape possible through the hole—hence the need for inserting the needles to different depths, to reach the evil spirit. The rationale for the use of *moxibustion* in the cure of disease was apparently based upon the concept that there was a sort of network of "connections" from the internal viscera to the external surface of the body, and that every disease process of whatever nature it might be and wherever its site could be cured by "burning it out."[2] Later on these ancient beliefs were modified to accord with the Chinese theory of angiology and splanchnology, which postulated twelve main channels or ducts deeply imbedded in the muscles but along whose routes there was sufficient proximity to the skin (traditionally at 365 points) to permit them being reached by needle or moxa. Important in the application of these treatments were astrological and climatic considerations, and, for the physician to evaluate the condition of the patient himself, the pulse beats.[3] Most important of all, in each of these treatments, was the precision with which the "right spots" were located on the surface of the body for either the needle or the moxa.

So far as the writer is aware, there are no special monographic histories of either acupuncture or moxibustion in the Japanese medical literature. Perhaps

[2] It is doubtful if either of these forms of medical therapy make much sense to the Western mind, although in the case of acupuncture it should not be forgotten that the first trephining of skulls, as noted in archaeological relics found at early sites in the Western world, was not to relieve pressure on the brain or to facilitate the removal of a tumor but was for precisely the same reason, namely, the release of an evil spirit. It must also be pointed out to the reader that each of these ancient treatments has been used for centuries and the traditional belief in their efficacy is deeply rooted in the Japanese people, so much so in fact that both (but especially moxibustion) are in common and widespread use in present-day Japan, and the modern Japanese physician, however advanced his medical training, is merely responding to the popular demands of the people. It is not uncommon to find, among even the Japanese people in highly urban and industrial areas, round white cicatrices upon various parts of the body, but most usually in parallel lines along either side of the vertebral column, attesting to the use of the moxa; and it is interesting to note that moxa burns or scars are commonly depicted in many Japanese artistic representations which were drawn or painted for quite different purposes.

[3] The pulse lore of Chinese medicine is famous. Among the many treatises on this subject, which found its application in so much of Oriental medicine, was the well-known work entitled *Muo-ching*, on the theory of the pulse, by WANG Shu-Ho who lived in the Tsin era (265–317 A.D.) compiled from earlier writings, principally those in the *Nei Ching*, the *Nan Ching*, the *Shang-han-lun* and the *Chia-i-ching*. WANG pretty well summed things up when he said, "The different kinds of pulse are easy to understand for the intellect but not so for the finger . . ." Two notations may be of interest in passing: The *Shang-han-lun*, which was itself a treatise on fevers composed by CHANG Chi (ca. 200 A.D.), was influential in the medicine of Japan for 1500 years and was carefully studied by Japanese physicians as late as 1850. The *Muo ching* was revised several times by later authors, and was even translated into German by Franz Hübotter. Another Chinese work on the pulse which found its way into Western medical literature was the *Miyaku kiyō* (n.d.) written by Ō Shuku-kuwa, and partly translated in Andreas Cleyer's *Specimen Medicine Sinicae* (Frankfurt, J. P. Zubrodt, 1682).

the most authentic accounts of acupuncture and moxibustion in Western languages are to be found in *Amaenitatum exoticarum politico-physico-medicarum. Fasciculi V* . . . (Lemgoviae: H. W. Meyeri, 1712) by Engelbert Kaempfer, "Observatio XI. Curatio colicae per acupuncturam, Japonibus usitata" (p. 582–589), and "Observatio XII. Moxa, praestantissima cauteriorum materia, Sinenibus Japonibusq; multùm usitata" (p. 589–605). After Kaempfer's death in 1716, his original manuscript was translated into English by J. G. Scheuchzer and first published in London in 1727 in two volumes as the *History of Japan* (reference is made here specifically to the Appendix, Chapters 3 and 4, respectively). This work was the chief source of information on Japan in the literature of the Western world for at least a hundred years, and is still useful. It was later translated into the following languages: French (in 1729), Dutch (in 1733), and German (in 1777), and has been reprinted several times.[4] Kaempfer, a German physician, spent many years in Japan and must have been thoroughly acquainted with the methods of medical treatment then in use.

Moxibustion, in the general sense of cauterizing, has been the most universally used remedy in all primitive societies, and persists in the descendants

[4] In spite of its many translations and reprintings, Kaempfer's *History of Japan* is not always readily accessible in libraries, and it is worth noting here that the greater part of his descriptions of acupuncture and moxibustion have been reproduced in the very interesting publication by Ilza Veith entitled "Medicine in Japan" (*Ciba Symposia*, 11: 1190–1220, Feb.–Mar. 1950, especially p. 1208–1212). In addition to Dr. Veith's article, the work of Kaempfer in describing the moxa was also reproduced in W. N. Whitney's paper "Notes on the history of medical progress in Japan" (*Trans. Asiatic Soc. of Japan*, 12: 245–469, 1885, see especially 289–293). Another English-language writing on moxibustion is Robley Dunglison's historical introduction to his translation of Dominique-Jean Larrey's *On the Use of the Moxa, as a Therapeutical Agent* (London, Underwood, 1822). Some of the best accounts are also the articles by Baron Larrey entitled "Moxa" (*Dictionaire des sciences médicales*, 34: 459–474, 1819), and by Percy and Laurent entitled "Moxibustion" (*ibid.*, p. 474–492). In the American medical literature a valuable early writing was the paper by W. Hamilton Stockwell entitled "On moxa" (*Transylvania J. Med.*, 8: 151–169, 1835). But interest in this subject in America, as in England, was short-lived and afterward, except for one instance, the few later writings were entirely historical in nature, these ancient Oriental arts of medicine having been relegated to the limbo of curiosities. For descriptions of acupuncture, reference should be made to *A Treatise on Acupuncturation* . . . by James Morss Churchill (London, Simpkin and Marshall, 1823). A recent editorial article by A. Garrard Macleod entitled "The ancient practice of acupuncture" also appeared in *Scope*, 3: 4–6 (Fall 1952). There have been several writings on acupuncture in other Western languages, but perhaps the best accounts are to be found in a paper by Tyotoku NAKAYAMA, translated by Nyoiti SAKURAZAWA and annotated by George Soulie de Morant, entitled "Acupuncture et médecine chinoise verifiées au Japon" (*Hippocrate*, 1:1101–1122, 1933; 2: 14–30, 121–147, 207–219, 1934), which later appeared as a separate publication with the same title in the Collection "Hippocrate" (No. 2), Paris, 1934; and another account in a Paris thesis of 1936 by Nguyen van Quan entitled *Sur quelques recherches touchant la médicine traditionnelle sino-japonaise en particulier l'acupuncture.*

of many countries.[5] It was possibly first introduced into Europe from China in the 7th century A.D., but nothing was heard of it in Western medical literature until 1580 when Prosperi Alpini, writing on Egyptian medicine, stirred up a little interest. However, not until the end of the 17th century when separate accounts of the moxa were published independently by Herman Buschof (1674), Andreas Cleyer (1682), and Wilhelm ten Rhyne (1683), after each had spent some time in the Orient, was any real attention given to moxibustion as a therapeutic measure. It was first used in Europe for the treatment of gout, and popularity of the moxa in England was greatly enhanced when Sir William Temple, an English diplomat, statesman, and essayist, was cured of the gout and afterward described his experience in a pamphlet entitled *An Essay Upon the Cure of the Gout by Moxa* (Nimeguen, 1677). A rather complete history of the use of moxa in European medicine was given by Karl W. G. Ritter von Reichert in a paper entitled "Ein Beitrag zur Geschichte der Moxa" (*Deut. Arch. f. Gesch. de Med.*, 2: 45–76, 145–182, 1879).

The writings of Wilhelm ten Rhyne (1683) and of Engelbert Kaempfer (1712, 1727, et. seq.) also introduced the art of acupuncture into European medical practice but, like the moxa, this art remained dormant and little used until it was revived a century later by the observations of French and English physicians (the principal historical writings are referred to in Footnote 4). An interesting account is given by J. M. Churchill of "Mr Scott" of Westminister who is supposed to have introduced acupuncture (i.e. have been the first to perform it) into England. Scott himself received the operation of acupuncture on February 18, 1821, at the hands of Edward Jukes, surgeon-accoucher to the Westminster Medical Institution, for severe pain in the loins. From the report of the case it cannot be said that Scott "suffered" from the acupuncture, and he was quickly cured with no return of the complaint.

In recent years there has been a revival of interest in the real possibilities of the curative effects of both acupuncture and moxibustion, and investigations are being continued to study the efficacy of such treatments by workers in both Japan and Europe. This has led, of course, to a re-examination of the old books on the subject. One of the earliest works was the *Hwanti Ming-tang ching*, a Chinese work of 667–683 A.D., compiled from many books by YŌ Zyozen (?), by order of the then Emperor. Known in Japan as *Ohtei daikei meidō*, that work was originally published in 13 volumes but many have since been lost and there is now only one volume extant, preserved in Kyōto. Several other early Chinese medical works gave instructions and advice regarding

[5] For example, Erwin H. Ackerknecht has described an Eskimo remedy, remindful of the Japanese moxa, which consisted of laying a burning wick upon the diseased part of the body and blowing upon the wick to increase the intensity of the heat. It should also be remarked that "burning spots" were shown in an 11th century Salernitan manuscript now in the British Museum.

acupuncture, and are known to have been used in Japan in the pre-Nara period (97 B.C.-709 A.D.). Notable among these were the *Huang-ti-chên-chiu-chia-i-ching* (or, simply, the *Chia-i-ching*), a classical book on acupuncture, and the foundation of all subsequent work on the subject. It was compiled by HUANG Fu (215-282 A.D.), a famous Confucianist, from even earlier writings, chiefly from the *Nei Ching*; 354 "right" spots were mentioned, and other sites forbidden for the use of acupuncture were described. In Chinese tradition, HWANG-TI (KŌ-TEI, in Japanese) was the first to teach acupuncture and his teachings were incorporated in the *Ling-shu*, a part of his famous work the *Nei Ching*. The *Ling-shu* was brought into Japan from Korea about the end of the 6th century A.D., and in Japan it was known and used as the *Rei-su*, a work which was to be transcribed and commented upon by many hands and to have widespread influence in the early practice of Japanese medicine. FUJIKAWA mentions two other Chinese treatises on acupuncture, the *Kan-i-ching* and the *Liu-chu-ching*, by unknown authors and of uncertain dates but known to have been used in Japan in the pre-Nara period.

The art of acupuncture was Chinese in origin, but the Japanese made many improvements in it. (Among the Chinese, however, the Taoists did not usually use either moxa or acupuncture.) "Shin-hakase," meaning professor of acupuncture, was a title in use in 957 A.D. and conferred upon those Japanese physicians who were most proficient in the art. Famous among the early acupuncturists were Waichi SUGIYAMA (1610–1694) who wrote two works on the subject entitled *Sugiyama-riūshukuwan* (n.d.) and *Senshin-ron* (n.d.); Anichi MISHIMA (ca. 1690), who wrote *Shinden riūkuwan* (n.d.) and *Shinden riūhi-kuwan* (n.d.) on the "true" school of acupuncture, and a work entitled *Betsuden sankuwan-hō* (n.d.) on the three important methods of acupuncture; Ikiū YOSHIDA, who lived during the time of the Ming dynasty, wrote *Shishin kakan*, or "Household mirror of acupuncture" (n.d.); Shingen KAKIMOTO (ca. 1750–1800) wrote two books entitled *Kisairoku* (n.d.) and *Hendō-roku* (n.d.), the latter on the use of *stone* needles;[6] and Gengai OGINO (ca. 1790), a celebrated acupuncturist, wrote *Shiraku-hen* (n.d.).

The origin of moxa or moxibustion has been traced by both the Chinese and the Japanese to remotest antiquity, and claims have been made that it was known even before the invention of their ancient practices of medicine and surgery. But whatever its origin and however old its use, moxa appears to have been somewhat more indigenous to the Japanese than to the Chinese. There were few early Chinese writings on moxa of consequence, but it should be noted that KŌ Hotisu, a Chinese physician who lived during the Tsin dynasty (265–322 A.D.), wrote an eight-volume work in the Japanese

[6] Needles for acupuncture were many and varied in size, form, and material. Probably, in earliest times, the stone needles pre-dated the later use of needles made of copper, brass, gold, silver, iron, and steel.

language entitled *Kōotsu-kiyo* on both acupuncture and moxa. The first published Japanese writing on moxibustion appears to have been in 1534 when a work in one volume was published by Tsunemitsu WATARE with the title *Kwanrei sōkyū shinsho*, although there were undoubtedly many and varied manuscript copies of instruction in the moxa in use before that date. Shortly after that time the Japanese physicians began to combine their writings on moxibustion and on acupuncture in the same works. Notable among these were the *Shinkyū shūyō* of the famous Dōsan MANASE (1507–1595), a work in one volume on the principles of acupuncture and moxa; the *Shinkyū hiketsu*, a one-volume work on important points (i.e. sites for application), and the *Shinkyū zenron*, a handbook of acupuncture and moxa in one volume, each of these latter books were by Isai MISONO (died 1616) who was a famous Japanese expert in acupuncturation. These works cannot be dated with accuracy, but they are known to have been composed in the Azuchi-Momoyama period (1569–1615).

The earliest work on moxibustion in the writer's collection is a very well-preserved copy, printed in 1649, of *Meidō kyūkei*, which turned up in an unforgettable old Japanese bookshop in Tōkyō on Morikawa near Hongō cross. *Meidō kyūkei* is the Japanese equivalent title for the Chinese *Ming t'ang gin ching*, a treatise on moxibustion, probably originally written by KŌ-TEI (legendary dates, 2698–2598 B.C.), the ancient and half-legendary Chinese Emperor, HUANG Ti. A wise and clever man, he is regarded as the "Father of China" (he himself had 25 children), and was probably a physician. The meaning of the title of this rare and unusual work in one volume is, literally, meidō = right point[7] (or spot or place), kyū = moxa, kei = book. According to Japanese tradition, certain days should not be used for treatment by moxa (or by acupuncture), and that book told when it was favorable and when it was unfavorable. There are many wood-block illustrations, the figures being unmistakably Chinese in appearance. Of particular interest in that old book was a diagram (Plate I A) based upon superstitious medical belief in the use of moxa, which depended upon striking a balance of age of patient, compass direction (i.e. north, south, etc.), and day of the year. Also in that diagram a "buttocks" deity (unidentified) was referred to, and it was warned not to apply either moxa or acupuncture to any place on the body of the patient where that deity "lived."

KATSU Jū (alias = Hakunin), whose acquaintance we made in Part I as the author of the *Nan-kyō hon-gi*, was a Chinese physician whose years are

[7] The origin of this term is interesting. According to Alexander Wylie's *Notes on Chinese Literature* (Shanghai, 1867), *meidō* (i.e., ming t'ang) was the name of a special apartment in the palace of Kō-tei (i.e., Hwang Tī) where he expounded his views on the venous and muscular systems, and afterward *meidō* was used as a generic term in the designation of a right spot or place for acupuncture (or moxibustion).

uncertain but who lived prior to the time of the Ming dynasty. He wrote a book on the introduction of the moxa system into Japan from China, the original Japanese edition of which was published in 1684 with the title *Jūshikei* (or *Jūshikyo*) *hakki*. That book was complete in one volume, but was in two parts. A theoretical discussion, by KATSU, chiefly on acupuncture but equally applicable to moxa, not on how to cure but on the more fundamental nature of the subject,[8] comprised the first part of that work. The first part discussed the fundamental belief of the Chinese and Japanese in a relationship between the internal organs and their diseases, and curative treatment for them at specific sites on the outside of the body. The second part, written by an unknown co-author, was subtitled *Jūshikei ketsu chi-ho* and gave practical instruction. Several illustrations[9] in this work show relationships between moxa or acupuncture sites and specific internal organs (e.g. between the hands and the lungs). Two drawings are especially interesting as showing external measurements of the human body, anterior (Plate I B) and posterior aspects, referring to differences between lean and fat individuals and the influence of aging. (Obesity and aging are problems which are currently occupying the attention of investigators in America and in other countries, and we are only just beginning to understand the significance of adipose tissue in the human body. It is interesting, therefore, to realize that these same problems were apparently not unrecognized by the early Chinese and Japanese.) There is some reason to believe that this work by KATSU Jū, entitled *Jūshikei hakki*, was later "explained" by Ippō OKAMOTO[10] and published as *Jūshikei ryaki wago* in

[8] It should be noted that the *Nei Ching* contained no fundamental principles of the art of acupuncture.

[9] Some of these figures were obviously copied or redrawn and reproduced in the paper by NAKAYAMA, referred to in Footnote 4, to illustrate the Chinese conception of the "right spots" for acupuncture.

[10] Ippōshi or Ichiku or Ittokusai OKAMOTO was a 17th century Japanese author who wrote popular explanations of contemporary medical works and earlier medical classics. As such his literary output was great. (Compare with, for example, our own Paul De Kruif.) His older brother, Chikamatsu OKAMOTO, was a novelist and dramatist of considerable ability and was called the "Japanese Shakespeare." Whitney cites a story of how Ippō was chided by his brother for writing popular accounts of medicine to beguile the public, even to the point

PLATE I

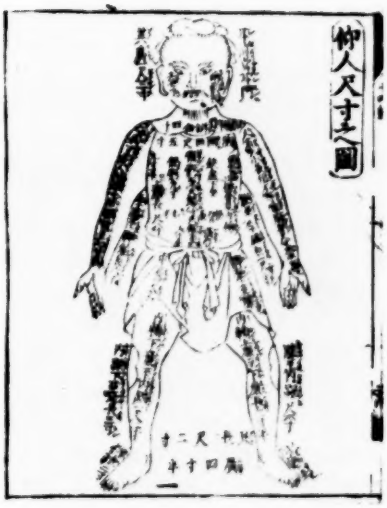
FIG. A. Diagram of superstitious medical belief in the use of the moxa, from the *Meidō kyūkei*, 1649.

FIG. B. Measurements of the body, anterior aspect, from the *Jūshikei hakki*, 1684.

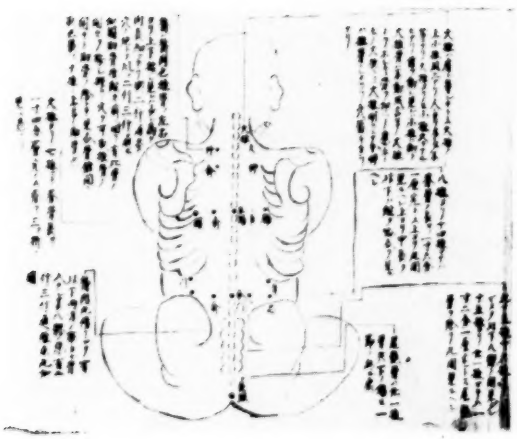
FIG. C. Drawing of the main spots for moxa treatment, from Japanese manuscript known as *Kaike-kyūhō hisho*, Bunka period (1804–1829).

FIG. D. Wooden models of the classical moxa and acupuncture sites, from *Tsuzōku kyūryō no kogi*, 1927. The figure on the left is an early model, constructed in an unspecified pre-Meiji period.

A



B



C

D

1693, in three volumes. A copy of the later "explanation" by OKAMOTO is in the Rare Book Room (now the Archibald Malloch Room) of the New York Academy of Medicine.

A rather basic early Japanese writing on moxa and acupuncture is to be found in a work entitled *Shinkyū bassui*, by an unknown author or editor, published complete in five volumes in 1685. This treatise refers to an earlier Chinese work, unnamed, but probably meaning the *Rei-su* (or *Ling-shu*), traditionally ascribed to the famous Chinese physician-emperor, KŌ-TEI (or HWANG Ti). The detail available in *Shinkyū bassui*, especially regarding descriptions and instructions for use, is impressive—no less than 22 sections consider the following aspects of moxa and acupuncture: theory; relationship to the pulse; stomach; other internal organs; treatment (which was differentiated by sex); the "philosophy" of acupuncture; cautions in the use of acupuncture and moxa; the preparation and use of moxa cones;[11] how to remove needles (including a separate section on needles which are broken off in the skin); how to twist the needle; how to hit the needle (with a mallet); how to use the needle with a tube;[12] the use of needles (with a separate section on their use in the treatment of boils); on the names of spots (not the "right spots") where—with extreme caution—acupuncture and moxa can be used (regarded as "secret" spots, not for the use of beginners in the art); how to measure for location of sites to apply treatment; on needles in general; on names and lengths of bones; and, finally, on interrelations among nerves. It should, therefore, not come as a surprise to the reader to know that *Shinkyū bassui* was a widely quoted work in subsequent writings on the subject. Some of the illustrations contained in this work are apparently the originals of those reproduced in the section on moxibustion and acupuncture in FUJIKAWA's classic history of medicine in Japan, the *Nihon igakushi* (1904, et seq.). In 1698 or 1699 *Shinkyū bassui* was also "explained" by Ippō OKAMOTO and published as *Shinkyū bassui taisei*, with additional illustrations.

In 1722 appeared the original edition of *Shinkyū chōhō-ki*, by Masatoya

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of misleading medical students into depending upon his writings for their knowledge. So great was Ippō's dismay and fear at the possible truth of this that he ceased writing altogether, and—unfortunately, for its historical interest—destroyed a half-finished treastise on the *Sō-mon* (the Chinese *Su Wên*, a part of the *Nei Ching*). Ippō's grandfather, Rien, was a physician. Ippō OKAMOTO studied Chinese medical books; he is not known to have practiced any form of the medicine of the day, and he was probably not a physician.

[11] *Kawakiri*, the Romaji word for moxa cones, was also carried over into the economic life of the Japanese and used to describe the taxes imposed upon the people, "because they . . . are very hard to [endure] at first, but become much easier in time."

[12] The particular use of the needle was dependent upon the specific disease to be cured. A "tube acupuncture needle" was supposed to have been invented in 1688, probably by Waichi SUGIYAMA (1610–1694), a blind physician who had "invented," as the result of a dream, a special treatment with needle and protective tube to cure the Shōgun.

HONGO, a Japanese treatise on (literally translated) "the everyday use of acupuncture and moxa." Some of the illustrations were redrawings of those in *Shinkyū bassui*, others were for additional interpretation of the text. Of particular interest are separate drawings of the thoracic and abdominal viscera; a diagram illustrating how to "know" the pulse of children by palpation of the forehead, nose, cheeks, and chin; sketches of fingermarkings (possibly precursors of fingerprints?), the form or design of which was used to diagnose the sickness and sometimes predict the outcome for the patient (how tantalizing is the implication suggested by the finger-marking representing death, which was drawn in the unmistakable shape of a human spermatozoon!). Specific instructions were given for diagnosing sickness in children more than three years of age, according to the color of the fingers: blue = cold (acute coryza); light purple or red = fever; dark red = measles; yellow = disease of spleen; white = nervousness; black = poison or bad gas. *Shinkyū chōhō-ki* was destined to be reprinted in 1749, and another edition has been published in Japan as recently as 1948.

One of my more memorable book-hunting adventures in Tōkyō near Jinbō-cho resulted in acquiring a rarity—a Japanese manuscript on moxibustion, undated but probably written during the Bunka period (1804–1829) by an unknown author. Entitled[13] *Kaike-kyūhō hisho*, this manuscript is a "secret" or private (i.e. not for publication) writing of the KAI family, a record of moxa treatments found to be effective in a variety of conditions, illustrated with hand-drawn India-ink sketches. The first drawing shows the main spots (or sites or points) for the application of the moxa. (Plate I C) The remaining sketches show how to determine moxa points, and accompanying descriptions tell what conditions can be cured or alleviated by the proper use of the moxa.[14] Diseases or conditions mentioned in this manuscript were: apoplexy, typhoid fever, pain in pelvic region (not more clearly specified), asthma, prolonged coughing, laryngitis, lumbago, gonorrhea (moxa sites for treatment were on the big toe of the right foot or over the sacrum), to regain body weight lost during the summer, amnesia, epilepsy (moxa site was directly on the external genitalia of either male or female),[15] hemorrhoids, prolapsus ani, insanity (not

[13] There are many varied rules for transliterating the titles of Japanese books, and in every instance throughout this paper my advisers and I have sought to be as accurate as possible.

[14] In the very early days in Japan (during the period chronicled by the *Kojiki*) there was no transportation of any kind, and it was the habit of the early Japanese to have moxa applied at the point *sanri* (defined in Part I) before starting on a trip since that "treatment" made it possible for them to walk six miles. This was a common use of the moxa, and it should be remarked that moxibustion was also adopted as a preventive measure to preserve health, characteristically used by all people, even being routinely given to prisoners and denied only to pregnant women.

[15] Moxa sites characteristically bore little or no anatomical relationship to the seat of the complaint or to the affected part.

more clearly specified), to regain consciousness, for (attempted) revival in case of sudden death, headache, "coolness of head," pain in ears, toothache, swelling or hemorrhage (?) of larynx, prevention of seasickness, dog bites, wounds (especially of the shoulder and head), furuncle, carbuncle, gangrene of lung, erysipelas, tuberculosis of the cervical lymph nodes, paronychia, disease of tongue (unspecified), leukorrhea, several unspecified gynecological diseases or conditions, and, finally, for treatment before and after delivery. This enumeration is in the order of their consideration in this manuscript. I think the reader will agree that this is an amazing array of diseases and pathological conditions to have been treated (and often cured!) by the art of moxibustion. One of the drawings in this old Japanese manuscript is especially interesting as it suggests that dependence for efficacious treatment did not necessarily rest solely in the moxa—the patient being shown in an unmistakable attitude of prayer.[16] *Kaike-kyūhō hisho* is one of the most delightful of the old Japanese medical writings acquired—with all the fun that goes with book-hunting—during a summer spent in Tōkyō and Nagoya.

Sometime[17] between 1803 and 1807 Nanyō HARA (1753–1820) published an eight volume work on "right spots" for moxa and acupuncture for bloodletting, with the title *Keiketsu ikai*. This treatise was arranged on regional and systematic bases, the volumes covering, in succession, the head and neck; the shoulders, back and loins; the chest, abdomen, and lateral surfaces of the body; the hands and arms; the feet, legs, and thighs; the nerves and blood vessels all over the body; and, finally, methods of measurement for the determination of sites. The special importance of this work was in its designation of sites not only for the traditional use of acupuncture but also for venesection.[18]

[16] Of interest, too, is another favored position of the patient, described as follows: "He that is to be burnt must sit on the ground cross-legged . . . holding the palms of his hands to his cheeks, that position being the nearest to that in the mother's womb . . ." (Note this position in Plate I C.)

[17] Precise dating of old Japanese (and Chinese) books is not always possible, since the printing and publishing of books was often long delayed after their writing; indeed, it was not uncommon for a preface to have been written several years before the postscript date. To add further to the general confusion, wood-blocks used for the original printings of books would often be sold or otherwise transferred to another printer who would continue to use them without change in the colophon, the consequent alteration in the appearance of the printed leaf from gradual wearing of the wood-block sometimes being the only clue to estimate the year printed or published. In modern times, however, the colophon page provides all necessary information and, in addition, is usually ornamented with the hankō stamp of the author—signifying his personal approval of the publication.

[18] Unfortunately, the French translation of NAKAYAMA's work (see Footnote 4) does not cite the original Japanese writing, but some of the illustrations in *Keiketsu ikai* compare almost exactly with the lower row of figures in the paper in *Hippocrate*, so that they were probably copied for NAKAYAMA's original work or for use in the French translation, to delineate the Japanese concept of acupuncture for comparison with that of the Chinese (see Footnote 9).

In this connection it is of interest to note that the great Japanese physician Gempaku SUGITA (1733–1817) was present when a Dutch physician bled a patient, and he states that that was the first time bleeding had ever been tried in Edo (the ancient name for Tōkyō).

In the early days, the anatomy, physiology, and pathology of blood-vessels had been studied in Japan by means of a famous Chinese work entitled *Shih-sru-ching-fa-hui*, composed in three volumes and published in 1341 by HUA Shou, who lived in the Yüan period (ca. 1280 A.D.). Originally, acupuncture was not intended for bloodletting; quite the reverse, in fact, the blood vessels were studiously avoided. The term "acupuncture" was used by Leonardo da Vinci in describing his experiments of piercing the wall of the heart with a hollow needle carrying a straw, to determine the blood flow consequent on heart action, but this had, of course, no relationship to the traditional Oriental acupuncture. In our own primitive societies, the American Indians, acupuncture was unknown. However, they did perform a sort of generalized kind of bloodletting—"by sitting the patient on a rock in the middle of a river and shooting his body with many arrows specially made so as not to penetrate deeper than the skin" (a neat trick!).[19] Japanese acupuncture also attracted the attention of the French romantic writer, Jacques Henri Bernardin de Saint-Pierre, into whose hands had fallen a work of unspecified title written by Tokuhon NAGATA (1512–1630) in the Azuchi-Momoyama period (a work which designated only 337 points for acupuncture).

It has already been remarked that the arts of acupuncture and, more especially, moxibustion are still in fairly common use in present-day Japan. The final book to be described in this subject is entitled *Tsuzōku kyūryō no kōgi* (*Shizen to eisei*), written by Ikutarō KATŌ and first published in 1919 with at least nine subsequent editions through the year 1927. Translated literally, the title reads "Lectures on practical moxa treatment," subtitled "On nature and hygiene." It is difficult to know if the apparent popularity (as judged by the successive editions) was real or not, since it was a pseudo-scientific work, consisting mostly of self-praise and was like an advertisement of the moxa treatment as modified by KATŌ. (One may think of certain interesting parallels in our own country, especially at the close of the 19th century, for example, "Dr. Pierce's Golden Medical Discovery," which can still be seen painted on older barns in the Middle Atlantic States.) KATŌ devised or invented metallic instruments of various kinds for the external application of heat by moxibustion which would not leave scars, some of his instruments being adapted to

[19] Perhaps the ultimate in acupuncturation was the development of a device and a system for "multiple acupuncture," so to speak, by forcing several needles simultaneously into the skin, described by William Bennett Rule in his book *The Pyonex: Its Theory and Practice* (London, J. Bale, 1907). The claim was made that just about everything could be cured by this treatment.

permit self-application by the patient. In spite of the improvement that this would seem to imply, such instruments are not in common use today since the traditional moxa treatment (wherein the cones of *Artemisia vulgaris latifolia* are burnt directly on the skin) is still popular in Japan. Diagrams in this book specify points of the body to touch with the "strong-heat" instruments according to various intentions of treatment, and illustrate the disadvantages of applying heat to more than one spot at the same time. The modern Japanese is not unaware of the bacteriological implications of heterogeneous and promiscuous use of heat concentrated in a small skin area, and a drawing shows various kinds of strong skin reactions with these words: "If the site is quite proper the stimulus of the wound [as a counter-irritant] works effectively, but even in such cases it may be dangerous if the wound is infected with some bacilli." Perhaps the most interesting illustration in *Tsuzōku kyūryō no kōgi* is of two wooden models constructed to teach the classical moxa sites (Plate I D), one model made in an unspecified early era,[20] the other at the beginning of the Meiji period (1868–1911). Today, with the study of moxa treatment in a more advanced state, such early models still serve as a good reference to delineate the sites for the application of heat.

In addition to the experimental work (i.e. animal research) in Japan itself, during recent years and currently, to establish the mechanism of the therapeutic effects of acupuncture[21] and moxibustion, there is at the present time a revival of serious clinical interest in acupuncture in France and Germany. The height (or depth) of this interest may be gauged from the fact that about 1950 there was established in Germany a "Deutsche Gesellschaft für Akupunktur," issuing a *Zeitschrift*; and in France a "Société d'acupuncture," issuing a *Bulletin*. The French (who were the European peoples most interested in both acupuncture and moxa at the time of their previous simultaneous revivals in the early 1800's) have also produced a series of at least six clinical monographs on acupuncture in 1951 and 1952.

BATHING, BALNEOTHERAPY, AND MASSAGE

No account of the medical literature of Japan would be even fairly complete without something on bathing. Bathing has been, and is, an important phase

[20] In olden time in Japan such wooden images of a man upon which the spots for moxibustion and/or acupuncture had been indicated would also be placed in doorways to make known the houses of practitioners of moxibustion or acupuncture, the arts of which were often combined.

[21] In the middle of the 19th century it was suggested that the discovery by Charles-Édouard Brown-Séquard of the reflex action induced by counter-irritation was a possible explanation of the *modus operandi* of acupuncture. But it has also been held that acupuncture, even more than moxibustion, owes its value to psychotherapy rather than to any more direct or specific effect.

of Japanese living, notwithstanding the amusing descriptions to be found occasionally in American or other "Western" writings, due, I suspect, to the traditionally popular Japanese custom of mixed bathing ("mixed" = both sexes, sans clothing).[22] But this aspect of the public bath in Japan was primarily a social "problem" (now not lawfully permitted), and it should not be allowed to disguise the fact that bathing in Japan reached a high degree of development as both an art and as a therapeutic measure in the general concept of personal and public hygiene.

I was fortunate enough to find in Tōkyō a well-written and well-illustrated comparative history of bathing and of balneotherapy in Oriental and Western countries entitled *Tōzai mokuyoku shiwa*, by Gōichi FUJINAMI (born 1880), published in 1931. This modern book reviews the physiological effects of bathing, and presents the history of bathing in Japan as described in old books on hygiene. It is especially intriguing for the non-Japanese reader because of its copious illustrations. There is an interesting chapter on leprosy and the Crusades, derived from European writings of that period. Some notes taken from this book may be of interest: SHUNJŌ, an early Buddhist priest, recommended the bath, and in olden times the Buddhist temples gratuitously offered bathing facilities to the poor people, a custom which is still to be found in some parts of the country. Important in this connection is (or was) the belief that one who takes a bath in a temple is thereby made free from illness. NINSHŌ or NINJŌ (1216–1303), a famous Buddhist priest who was also a physician and one of the greatest philanthropists in the Kamakura period (1187–1333), built many bathrooms, hospitals, and "drug-houses" for patients. Steam baths were not uncommon at the middle of the Tokugawa dynasty (1615–1867) in Japan. In the Heian era (784–1186 A.D.) bath-ceremonies were customarily held to celebrate the birth of a prince of the royal house. In the Nara period (710–784 A.D.) the Empress KŌMYŌ became famous for an episode in which she washed the bodies of lepers in the bathroom, and this reminds one of similar treatment accorded lepers in Europe by St. Elizabeth, as depicted in a wood-engraving by Hans Burgkmair. (Leprosy raged throughout Europe, having been introduced by returning crusaders, and the best treatment of this disease was thought to be bathing.) Hot springs were popular with the nobility in China, and an old painting reproduced in this book shows HSUAN Tsung (an 8th century Chinese emperor, known in Japan as GENSŌ) and his empress, YOUNG Kwei Fei (known in Japan as YŌ-KIHI, and famous as the "Oriental Cleopatra") enjoying a hot spring. An interesting legend is that of Kiyomori TAIRA (1118–1181), one of the most famous heroes in Japanese history, who, suffering from a fever, tried to keep his body cool by taking a cold-water bath, but his body was so hot that the

[22] Nor should it be forgotten that mixed bathing was also indulged in in Europe in the 14th–16th centuries, especially in connection with wedding receptions.

water is said to have boiled.[23] In the Edo period (1616–1867) in Japan the caste system was reflected in the architecture and adornment of the baths for public use, those for the upper classes being more ornate and well-appointed, those for the ordinary people being more rustic and simple in design. In the former, too, were to be found the "waitresses" who attended in the bath, offered tea and sake (rice-wine), and sometimes entertained the customers as prostitutes. Many were the Japanese stories written about the bath, an example of one in the early part of the Meiji period being *Kengu-minato-sento-shinwa*, which means "a new story of a wise fool in a public bath house at a place in Osaka." Many, too, have been the artistic representations of the bath and of bathing, several of which, by both Japanese artists and by foreigners who had visited in Japan, are reproduced in *Tōzai mokuyoku shiwa*. A popular style of bath in domestic use today in Japan is a wooden, barrel-like tub which can be taken apart and set up elsewhere as needed; it is called a "set bath," and may be found with minor variations in form and construction. A quaint early Japanese custom associated with the bath, and still prevalent today, was the dedication of an *ema* (a drawing or print or painting given to a shrine) made by the parents of a baby who may have hated to take a bath, in the hope that he would be cured from such a "bad character." The *ema* was usually drawn or painted by the parents themselves. The social importance of the bath can be best stated in the words of the text: "The public bath house was the only social or resting place for the ordinary people, where all kinds of people were equal as they were all naked; they enjoyed chatting and visiting, and it was the most pleasant time in the day for them." *Tōzai mokuyoku shiwa* is an intriguing history of bathing, and the source of much interesting information on balneotherapy in Japan.[24]

[23] After this event cold baths which had formerly been regarded as a good treatment for a fever are said to have been abandoned. However, occasional accounts still persisted and apparently the cold shower bath eventually came back into favor. A one-volume work by an unidentified person named "KITAMURA" entitled *Kuwan suiikō* (n.d.) may be cited in this connection. Also, much later, appeared a notation accompanied by a somewhat humorous illustration (Plate II A) in HIRANO's *Byōka suchi* (*Kotobukigusa*), published in 1834 and described in Part I of this paper. The story of the episode as pictured in this illustration runs as follows: "The patient had influenza, with hands and legs cold, pulse weak, and couldn't eat anything. One night he became insane, ran away from the house, and jumped into the river. Rescued, he was taken back to the house where he was washed off with cold water. After that his sickness was cured." It should be noted, in passing, that CHANG Chung-King (ca 195 A.D.), famous as the "Chinese Hippocrates," was supposedly the first to use the cold bath in the treatment of fevers.

[24] Writings on bathing and balneotherapy in Japan, particularly historical ones, are meager in the medical literature of the Western world, and it is of special interest to note here that a well-written account has been given in a paper by Alfred Martin entitled "The bath in Japan" (*Ciba Symposia*, 1: 156–162, Aug. 1939), including some interesting illustrations reproduced from FUJINAMI's writing—the same work which is described here—in particular that of the Empress KŌMYŌ bathing lepers.

The medicinal use of hot springs in Japan is supposed to have been introduced by Ōkuni-nushi-no-kami and Sukunabikona-no-kami, the originators of the healing art in Japan, one of whom is alleged to have been cured of a disease by bathing in a hot spring.[25] But early Japanese medical writings on balneotherapy are almost nonexistent. Ryōzan GOTŌ (1659–1733), a noted Japanese physician, studied hot springs from the medical point of view but he did not write about them. Reference has been made in Part I in the section on pharmacology to the classic work of Shūan or Shūtoku KAGAWA (1683–1755) entitled *Yakusen zokuhen*, published in 1738, and is repeated here because a small part of it is concerned with a description of the healing powers of mineral baths. Indeed, Shūan KAGAWA is credited with being the first Japanese physician to investigate the therapeutic value of the waters of hot springs, a full account of which is given in his *Yakusen zokuhen*. The chemical composition of the waters of hot springs in Japan was the subject of a work by Yōan UDAGAWA (1798–1846) entitled *Shamitsu kaisō*, published in 1837. Two works on the hot springs of Japan which are worthy of noting were *Onsen shōgen* (n.d.) by Sōkei HARA, and *Onsenron* by Akitsune TAKUSHOKU published in 1809.

The minerals springs of Ashi-no-yu in the Hakone mountains are especially noteworthy as being useful in a variety of diseases. The waters of the Japanese spa at Kusatsu[26] are among the most famous, being especially noted for their efficacy in the treatment of syphilis, leprosy, nearly all skin diseases, and the severer forms of rheumatic afflictions and gout. A special spring, called "Me Arai Yu," was for treatment of the eyes. Unlike the other springs at Kusatsu, water from this source caused no smarting of the eyes and it was claimed that immediate benefit to the sight could be had from its use. It was stated, further, that "all cases of ophthalmia are positively cured by this water, which is truly a gift of the gods." But many other diseases also yielded to the therapeutic use of this spring, and according to Basil Hall Chamberlain, the Japanese had a proverb stating that "Love is the only grave distemper against which the waters of Kusatsu can effect nothing."

The hot springs of Japan were described in a book by Chimei KUWADA

[25] The discovery of the therapeutic uses of hot or thermal springs in Japan by Ōkuni-nushi-no-kami and Sukunabikona-no-kami (or, as they are also named, Ōna-muchi-no-mikoto and Sukuna-hikona-no-mikoto) is based upon the mythology and legend in ancient Japanese historical writings. Whether such an event pre-dated a Biblical account is left to scholars more competent than the writer to judge. In the *Old Testament* (Genesis, xxxvi, 24) it is related that one Anah-Beeri discovered a thermal spring in Edom, among the mountains of Seir, and that miraculous cures were observed.

[26] The springs at Kusatsu, which must certainly have been known in ancient times, were first brought into public notice between 1688 and 1704. Near the end of the Edo period Western physicians, who had advised the Japanese not to have their baths too hot, caused a great deal of discontent which, in turn, started an investigation and resulted in a return to the old custom of bathing in waters at temperatures of 110–120° F. The presence of arsenic is said to explain much of the curative powers of the Kusatsu waters.

entitled *Nihon onsenko*, published at Tōkyō in 1880. It should be remarked that the empire of Japan, for its land area, has a greater concentration of hot springs than all other parts of the world combined; and this has naturaliy attracted many people who "go for the cure." More recently, the question of health at Japanese hot springs was the subject of a book entitled *Onsen no kenkō*[27] by Giho NISHIKAWA, published at Tōkyō in 1933. Included in that book were many colored wood-block illustrations. In addition to the healing baths of Japan, the author of that work also described the curing effect of spas in other parts of the world.

Furo by Kakutaro NAKAGIRI,[28] published in 1935, is another recent Japanese book on the bath and bathing, giving the origin, history, and construction of the bathtub, with various aspects of curing illnesses and keeping healthy by bathing. It contains many illustrations.

Closely allied to the therapeutic use of the bath in Japan is (or was) the procedure of massage, practiced for centuries by the Chinese and apparently introduced into Japan as a consequence of the predatory invasions of the Malays. The history of the art and practice of massage[29] in Japan, known also among the Japanese as "shampooing," was thoroughly outlined in a paper by Yū FUJIKAWA entitled "Die Massage in Japan im Anschluss an die Geschichte der Massage" (*Centralbl. f.d. Grenzg. d. Med. u. Chir.*, 2: 601–605, 651–654, 1899).

Historically, there have been two distinct types of massage in Japan, one practiced by professional masseurs (often by blind persons), their art being that referred to by the term "shampooing" and greatly indulged in by the common people; the other type practiced by special physicians, while separated somewhat from the other healing arts of Japan, was, nevertheless, a more "scientific" form of manipulative therapy. Healing of the sick through rubbing of the body was known to the earliest Japanese physicians, who brought the art to a high state of development. Massage was early (pre-Nara period) linked with the treatment of fractures and bandaging, and remained one of the chief factors in the care of the body, sharing with mineral baths, acupuncture, gymnastics, and "deep breathing" in the preliminary development of physical therapy in Japan. Massage was accurately described in the important codex,

[27] With this Japanese work as a background, Fritz F. Härtel wrote one of the best descriptive accounts of the baths in Japan to be found in Western medical literature, including his own personal observations, in a paper entitled "Die Heilbäder Japans" (*Balneologe*, 2: 302–317, 1935).

[28] The first of the trilogy, published with *Isha no fūzoku* and *Teien to fūzoku*, referred to in Part I in the section on medical history.

[29] *Massage*, "a method of rubbing, kneading, or stroking the superficial parts of the body with the hand or with an instrument . . . " was called *anatripsis* by Hippocrates, *tripsis* by Galen, *frictio* by Celsus, *manipulation* by Beveridge, and *medical rubbing* in the everyday language of the English people at the latter part of the 19th century.

the *Taihō ryō* (702 A.D.), which also regulated its practice. The *Ishinhō* of Yasuyori TAMBA gave the technique and indications for massage against certain diseases and, again reminding one of the rationale of the early practices of acupuncture and moxa, it was stated "most of the diseases are due to a pneuma hiding in the body [and] through massage one hopes to make an exit for it." Manipulations were described for "body pains," particularly of the neck, hip, and back; and it was thought to be especially helpful in coughing, dyspepsia, and diseases of the respiratory organs.

Chinese massage, which had been adopted in Japan about 1000 A.D., gradually supplanted the indigenous Japanese massage and this situation persisted until about the beginning of the 17th century when the medical practice of massage emerged as a special art having been improved by the Japanese physicians. During that period massage was included in the practice of surgery. A well-known physician of the time, Isai MISONO (died 1616), had been the first to apply massage to the lower part of the body, but he left no descriptive account of it. Although there is record of a work by Masakatsu HAYASHI entitled *Dōin taiyō*, published in 1648, FUJIKAWA credits the *Dōin kōketsu sho* by Tsusaku MIYAWAKI, who wrote under the pen name "Yoyoshi," which appeared in 1713 in two volumes as being the first monograph in Japan on massage. The first volume of *Dōin kōketsu sho* contained information on the knowledge and effect of massage; the second volume described the technique in the treatment of specific diseases. MIYAWAKI (or "Yoyoshi") suggested massage as a preventive measure for the healthy as well as a therapeutic measure for the sick, and described massage of the breast, the body (abdomen), the neck, the stomach, the back, and the hands.

The achievements and learning in the practice of massage also contributed to the establishment in the latter part of the 17th century of the "Seikotsu-Jutsu," which was a system of treatment for fractures and dislocations. In the early part of the 18th century massage was highly recommended by Gonzan GOTŌ. Shūan KAGAWA revived the art in his *Ippondō kōyoigen* (n.d.). Massage for the benefit of the pregnant woman was outlined in the well-known work on obstetrics by Genetsu KAGAWA, the *San-ron* (1765), the original technique of which was further improved by Genteki or Shikei KAGAWA in his important writing the *San-ron yoku* (1775). This technique was also learned by midwives and used in difficult cases of delivery. *Ampukuden* by Tatsunoshin UCHIMI (or UTSUMI) was published in 1799, a work which differentiated eleven manipulations and described their indications and contra-indications. In 1800 appeared the *Amma tebiki* of Ryōhaku FUJIBAYASHI, an introduction to the technique of massage, a work which was still used in Japan at least to the end of the 19th century. The last monograph of importance on massage in old Japan was the *Ampuku zukai*, compiled and published by Shinsai ŌTA in 1827, which gave the technique of massage in text and illustra-

tions. European massage was introduced into Japan in the Meiji period through the works of Albert Reibmayr, Georg Hühnerfauth, L. Prochownick, and others, which were translated into Japanese.

Only one early treatise on massage came to the writer's attention while he was prowling around the old bookshops in Tōkyō and Nagoya, a work in four volumes entitled *Rinsei amma yōjutsu* by an unknown Chinese author, published about 1800. Descriptions of the use of massage are given in text and illustrations. Some of the conditions for which massage was recommended were fever (because the treatment made the body sweat), cough, chills accompanying fever, to "make spleen healthy and to help digestion," to increase blood circulation and for constipation, good for kidney, yellow jaundice, "swelling of the body" (not otherwise defined), good for stomach, nervous disorders, disease of eye in a child, good for navel of a child, thrush, disease of a child consequent to congenital syphilis, good for tongue, "aching" throat, etc. It is of interest to know that the treatment by massage was different for male and female, if suffering from cold and fever. (Plate II B) Somewhat remindful of the theories upon which the procedures of acupuncture and moxibustion were based was the belief for treatment by massage which conceived that the tips of the fingers "belong" to the viscera. For example, the thumb = the spleen, the index finger = the liver, the middle finger = the heart, the ring finger = the lungs, and the little finger = the kidneys. One of the illustrations suggests that fortune-telling may also have been within the province of the specialist in massage.[30] Definitions of various parts of the body were given, certain body fluids (e.g. urine) were described, and the use of certain medicines was suggested. Each type of massage had a special name, and specific instructions were

[30] Whether the physicians who were experts in medical massage engaged in such "tricks" as fortune-telling is unknown. Certainly for the "shampooers" such "side lines" as this were only for those practitioners who could see. In Japan at the time of the Emperor Jimmu Tennō (legendary dates, 711–585 B.C.) massage (and acupuncture) were practiced by the blind. In olden time, and since then to the Meiji restoration (1868), ancient laws had granted the *amma* certain privileges in the practice of massage or shampooing—an art in which, with their highly developed tactile sense, the blind attained extraordinary proficiency. Photographs taken near the end of the 19th century show the blind masseur tapping his way through the streets of Tōkyō, often at night. A distinctive whistle would signal his presence, and by calling him into the home a sufferer could receive the benefit of a "rubbing" at trifling cost.

PLATE II

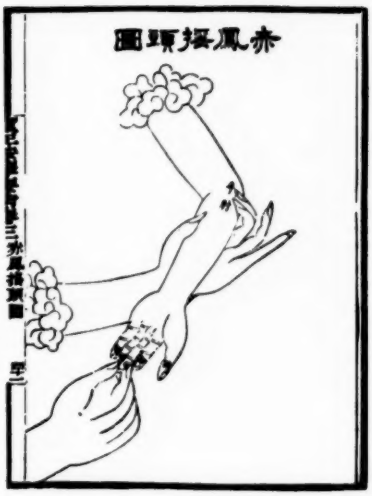
Fig. A. Cold shower bath for treatment of patient, from *Byōka suchi* (*Kotobukigusa*), 1834. See Footnote 23 for story. Note moxa scars on the back of man with bucket.

Fig. B. Treatment for cold and fever by "medical massage," from *Anma-yu-su-chi-tu-chieh*, a Chinese work of about 1800 (known in Japan as *Rinsei amma yōjutsu*).

Fig. C. Illustration of hydrocephalus, from *Rōba shinsho*, 1817. The flower held in the hand denoted the subject as a child.

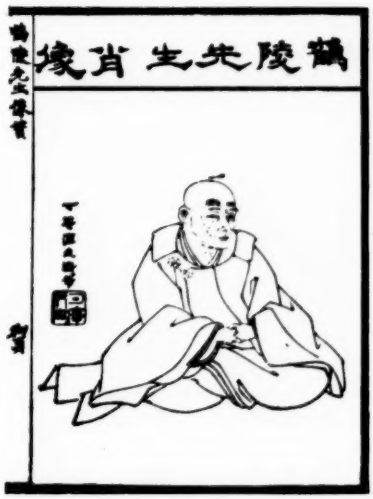
Fig. D. Kakuryō KATAKURA (1750–1822).

A



B

C



D

given as to how many times to rub the part (of the body) and where the rubbing should be done. *Rinsei amma yōjutsu*, the Chinese title of which is *Anma-yu-su-chi-tu-chieh*, was a work on medical massage, with or without the additional use of medicines.

NURSING, PEDIATRICS, AND HYGIENE

The arts of the bath and of massage have always been especially effective at the hands of the Japanese women[31] and this leads us, more or less naturally, to the subject of nursing in Japan. The history of nursing in Japan has been presented, evidently for the first time, by my good friend Dr. Akira ISHIHARA, in a recent (1953) publication entitled *Kangoshi*. That "short history of nursing" is divided into two parts; the first is a history of nursing in foreign (i.e. "Western") countries, and the second part is devoted to a history of nursing in the island empire. *Kangoshi* appears to offer for the Japanese reader a concise but complete summary of nursing history in the Western world, and the illustrations for this purpose are well-chosen. We are more concerned here, of course, with the history of nursing in Japan, and Dr. ISHIHARA's short account starts out with the literature on nursing in Japanese mythology, derived principally from the *Nihon shoki*. The life of Shōtoku TAISHI (573–621 A.D.), a relative of the then Emperor, who did merciful work in a Buddhist temple, is described. He built a hospital, and was evidently the first philanthropist of nursing in Japanese history about whom any records remain. Abstracts are given from an old nursing book entitled *Kanbyōyō shinsho*, of about the year 1240. In olden times nursing was mostly done in the temples, and reference is made to the work and influence of NINSHŌ (1216–1303), an early Buddhist priest and physician. An important later writer on nursing was Gosan KATSUKI (1655–1740). Much of the early nursing in Japan was concerned with the care of babies, and credit is given to Genetsu or Shigen KAGAWA (1699–1777) for originating the practice of gynecology (i.e. obstetrics) in Japan. *Kangoshi* was published with *Kango rinri* ("Principles of nursing") written by Hirotoshi HASHIMOTO. This dual publication is now in a second edition, the original edition having appeared in 1952.

One of the interesting old Japanese medical books in the writer's collection is *Rōba shinsho*, attributed to Shihyō HAZAMA but actually written by four of his pupils (unidentified), based upon his lectures. It was a pre- and post-partum nursing book, with notes on pediatric care and a few remarks on adult nursing, published in 1817 in two volumes. Considerable importance was attached to the "situation" and treatment of the umbilical cord (referred to

[31] This fine tribute is quoted from J. Ewing Mears: "The Japanese women, by birth, nature, and training, are admirably adapted for the care of the sick. Their graceful stature, the innocent, sympathizing expression of their eyes, their small, delicate hands, their light, noiseless gait are qualities which go far to make them ideal nurses . . ."

as the "navel string"), and several illustrations show the way in which it joins the body of the fetus and the placental connection with the mother. Instructions were given for the use of a special ointment on the cut part of the severed umbilical cord. Some instruction was also given for the nurse to know if the fetus was "rightly located" (i.e. with head down). When the baby was born, a special medicine was used to dispel poison in its body, made by combining a vegetable called "shakosi," and a flower known as "benihana," with three different herbs, "daiō," "kanzō," and "ōren," all placed in water and brought to a boil. A chrysanthemum petal was dipped in this mixture and then put into the baby's mouth. One of the interesting illustrations in *Rōba shinsho* appears to be of hydrocephalus, described as "a disease of little folk wherein the skull splits and grows large." (Plate II C) That old book ends up with a facsimile reproduction of the calligraphy of a patient (more or less in the form of a testimonial) describing his cure from a paralytic attack after three months of special nursing care.

Gensaku or Shōshō MANASE (1544–1631), the adopted son of Dōsan, and also himself a noted Japanese physician, first wrote on children's diseases in his *Karei (?) shōnihō* (n.d.), a work in one volume. Two other contemporary Japanese treatises also appeared in the Azuchi-Momoyama period (1569–1615) entitled *Kachinhō* (1577) written by Sōkei ITASAKA in one volume, and *Kaden shōnihō* (n.d.) written by Kōkan ITASAKA. A hundred years were to elapse before the next important writings in Japan on children's diseases. Then in 1688 a three-volume work by Setsuan TOBU on the care of children appeared with the title *Shōni yōjō roku*. A few years later two others, a publication of Genshin MATSUSHITA entitled *Shōni kuwappō* in one volume appeared in 1713, and a year later the *Shōni hitsuyōki*, a five-volume work by Gyūzan KAZUKI (1656–1740), who was a Japanese physician of note.

Western pediatrics was first introduced into Japan by the writing of Shinsai or Genshin UDAGAWA (1769–1834), famous as the composer of the *Ihan teikō* described in Part I of this paper. UDAGAWA translated the pediatric book of Nils Rosén von Rosenstein,[32] his *Underrätelser om Barns Sjukdomar och deras Botemedel* (Stockholm, 1764), a German edition of which had been translated by Johann Andreas Murray and appeared as *Anweisung zur Kenntniss und Kur der Kinderkrankheiten* (Gotha u. Göttingen, 1766). The Japanese translation by UDAGAWA appeared as *Shōni shobyō kanhō chihō zensho* (n.d.), a work in thirty volumes.

Christian Wilhelm Hufeland's book on the diseases of children which had appeared in German as *Bemerkungen über die natürlichen und inoculirten*

[32] The work of Rosén von Rosenstein, a Swedish physician who is now recognized as the founder of modern pediatrics, was also translated into English in 1776, but it is doubtful if that edition was used in Japan.

Blattern, verschiedene Kinderkrankheiten, und sowohl medizinische als diätetische Behandlung der Kinder (Berlin, H. A. Rottmann, 1798) was translated, from an unidentified Dutch edition of 1802, into Japanese in 1843 by Tadasuke or Chūsuke or Chūryō or Sodō HORIUCHI (1801–1854) and published in 1845 with the title *Yōyō seigei*. Some accounts claim that work as the earliest translation of a Western book on pediatrics in Japan, but it was probably pre-dated by the translated work of Shinsai UDAGAWA, referred to above.

Advice on hygiene ran through the ancient historical writings of Japan, but the earliest work specifically on the subject was the *Setsuyō yōketsu*, composed by Hiroizumi MONOBE (785–860 A.D.), in 20 volumes. Unfortunately, all volumes of that work were lost. However, much of early Japanese hygienic beliefs, practices, and learning was incorporated by Yasuyori TAMBA in his famous work, the *Ishinhō* (982 A.D.), and that early book has been handed down to the present time.

Sukehito FUKANE, another person credited with composing the *Honzō wamyō*, wrote an early work on hygiene in seven volumes entitled *Yōjōshō*, which appeared in the Enji period (901–923 A.D.). Other early Japanese hygienic writings produced before the advent of the Tokugawa dynasty in Japan were: *Eisei hiyōhō* (n.d.) by Yukinaga TAMBA; *Enju ruiyō* (1456) by Shokei TAKETA; and *Yenjiu satsuyō* (n.d), a one-volume work by Gensaku or Shōshō MANASE (1544–1631).

The most important works on hygiene produced in Japan during the Edo period appear to have been the following: *Chokusen yōjuroku* (1648) by Genshin YAMAWAKI (1591–1678), which was composed by order of the Emperor Gominoo; *Yōjō zendō* (1674) by Reiran or Genshō MUKAI (1609–1677) in one volume; *Isei shūyō* (1711) in seven volumes and *Kaibara yōjōkun* (n.d.) in four volumes, each by Ekken or Tokushin KAIBARA (1630–1714); and *Rōjin yashinai gusa* (1712), a work in six volumes by Gyūzan KAZUKI (1656–1740). Gempaku SUGITA, famous as the composer of the *Kaitai shinsho* and other works, also wrote on hygiene in his *Yōjō shichifuka* (n.d.) in one volume.

One of the more curious Japanese writings on hygiene was a book entitled *Yōjō no uta* published in 1794 in one volume by Angen HŌIN, which presented facts on hygiene in poetical verse.

OBSTETRICS AND GYNECOLOGY

In Japan, at least in the early days, there was no sharp division between obstetrics, as such, and gynecology and the classification of the literature on child-bearing appears to have been included in the term "gynecology." In the absence of any known histories of obstetrics in Japan of either early or recent date, written in the Japanese language, reference[33] should be made to an

[33] Reference is also made to a comparative study of the differences between Japanese and German obstetrics by D. SAKAKI entitled *Unterschiede der japanische und deutschen Gebürtshilfe. (Ein Beitrag zur japanischen Tokologie)*. Würzburg, 1895. 40 p.

inaugural dissertation by Masakiyo OGATA entitled *Beitrag zur Geschichte der Geburtshülfe in Japan* (Freiburg, 1891. 48 p., 13 plates). In that study the ancient writings, the *Kojiki* and the *Nihongi*, are referred to and the later Japanese literature on obstetrics incompletely covered by references to the following works: *San-ron* (1765) by Genetsu KAGAWA; *San-ron yoku* (1775) by Genteki KAGAWA; *Sanka kibun* (*or kimon*) by Mitzusada KAGAWA; *Sanka hitsuyō* by Mitzutaka KAGAWA; *San'iku zensho* by Gihaku MIZUHARA and *Tassei zusetsu* (1854–57) by Naoyoshi KONDO. (Some of the citations of these titles are not precisely the same as those given by Dr. OGATA, but are somewhat more accurate. There will be further references to these works and their authors later in this section.)

The closest approach to a Japanese-written history of obstetrics[33a] is to be found in *Kodai ijutsu to bumbenkō* by Norisuke or Senyū HARYŪ, published in 1931. This is a well-illustrated volume printed on "slick paper," the illustrations being almost entirely of Western derivation. The bookseller had described this to me as "the story of ancient medicine and obstetrics" (which it is), but a stamping on the "front" cover in English reading "Devils, Drugs and Doctors" (not "discovered" until long after the purchase of this book) marked it as obviously a Japanese translation of the well-known book of the same title by Howard W. Haggard. A careful check of *Kodai ijutsu to bumbenkō* by the writer after his return to America proved that practically all of the illustrations were reproduced from non-Japanese sources—almost all those used by Dr. Haggard, a few from the works of Palmer Findley, Morris Braude, Gustav-Jules Witkowski, Ploss, Ploss and Bartels, and a scattering from 17th century books by various European writers of that period. In his preface HARYŪ states that he "wanted to add writing of his own on Japanese obstetrics, but [he] didn't have time for it—so he merely included some [Japanese] illustrations with no explanatory text." Some side-lights on Japanese comment on illustrations of Western (i.e. European) obstetrics may be of interest. Malformations and defects in the newborn were believed to be "a consequence of the poor intelligence of the mother." During conception the mother sometimes suffered from "intoxication of the uterus," and this was believed to be the explanation of prenatal influences (the old question of maternal impressions?).[34] A Japanese traditional story or legend concerned the "delivery of the fox," artistically illustrated in this book; that legend was used in much the

[33a] Since these notes were made, two valuable contributions to the history of Japanese obstetrics have come to the writer's attention: a one-volume work by Riichirō SAEKI entitled *Nihon sanka-shi*, published in 1900; and a work entitled *Nihon sanka-sōsho*, compiled by Tomomasa MASUDA, Shūzō KURE, and Yū FUJIKAWA, which was published in 1895 and contained extracts of classical writings from fifty-nine Japanese obstetrical books.

[34] "Maternal impressions," an ancient belief in all cultures, were carefully cautioned against in the *Ta Sheng P'ien*, a Chinese work on obstetrics written by a unknown scholar during the reign of the Emperor Kang Hsi (ca. 1661 A.D.) and in common use even as late as the end of the 19th century. Most of this work appeared in English translation in a paper by John G. Kerr

same fashion as we do (or did) the story of "the birds, the bees and the flowers . . ." (In connection with such stories in Japan, it was considered "improper" to picture or to show the human figure in such a situation as a birth-scene.) Obstetrical instruments of Japanese invention are described, and there is an illustration of them in use. *Kodai ijutsu to bumbenkō*, although it is essentially a translation of Haggard's *Devils, Drugs and Doctors* (New York, 1929), does have some original Japanese illustrations and other textual comment.

In ancient times the process of childbirth was entirely in the hands of midwives, and their influence continued to be an important factor in the obstetrics of Japan until recent years. Their passive roles and the uniquely adaptive structure of the pelvis of the Japanese female are credited as responsible for an enviable record of uncomplicated, relatively easy deliveries—at least in the early days, before the advent of "scientific" obstetrical practice by physicians.[35] In old Japan, as in primitive societies elsewhere in the world, use was made of the so-called "parturition house"—a one-roomed hut, without windows, which the pregnant woman was expected to build and into which she retired for the actual birth. Indeed, some accounts definitely stated that the woman would be driven out to the hut and—literally—left to shift for herself (and her child, if it were "lucky" enough to be born alive). Such huts would be burnt down after the birth of the child. In the *Nihon shoki*, a chronicle of the

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entitled "The Tat Shang Pin, or Midwifery Made Easy" (*Ann. Gynecol. and Paediat.*, 7: 326–333, 461–468, 1893–94; also *New York J. Gynecol. and Obstet.*, 4: 605–630, 5: 191–200, 1894), and was described with some parts translated in a later paper by J. Preston Maxwell and J. L. LIU entitled "[Ta Sheng P'ien]: A Chinese household manual of obstetrics" (*Ann. Med. Hist.*, 1st series, 5: 95–99, 1923).

[35] Girdle customs among the Japanese, in relation to pregnancy, were also interesting. For example, the binding of the abdomen during pregnancy (and probably also the present-day use of the *obi*, in the traditional costume of the Japanese lady) can be traced back to a remarkable legend which had its origin in the conquest of Korea by the Empress Jingō (a quasi-legendary figure of ca. 200 A.D.). The *Kojiki*, in relating the legends of the Kyushu cycle, had this to say: ". . . So while this business [the conquest of Korea] was yet unconcluded, [the child] with which she [the Empress Jingō] was pregnant was about to be born. Forthwith, in order to restrain her august womb, she took a stone and wound it round the waist of her august skirt [i.e. as suggested by Norinaga MOTOORI, a famous Japanese physician and man of letters, the stone was held tight against her abdomen by a sash], and the august child was born after she had [returned from the conquest]." (It was said that the very stone used by the Empress Jingō was preserved at the village of Itō, in the land of Tsukushi, in southwestern Japan). Hence, the common use of the girdle by Japanese women, although its purpose —at least in the past century—was different. (The KAGAWAS, who had warned against the girdle, could not entirely overcome the force of tradition.) It was the habit of the pregnant woman, usually during the fifth month, to bind her abdomen with a band of cloth about one foot wide and six and one-half feet long, and this was not removed (although it was occasionally changed) until the birth of the child. The binding of the abdomen was for the purpose of retarding the growth of the fetus, so that delivery might be made easier.

"Mythical period" (prior to 96 B.C.), we read that if the child was a boy the umbilical cord would be cut with a knife fashioned from a bamboo tree.

Morisada AKI (ca. 1358) is credited with being the first obstetrics expert in Japan, having attained fame by his proficiency during a difficult delivery involving Kiroko, the wife of the then Shōgun Yoshiotada ASHIKAGA, at which time he was successful in saving both mother and baby,[36] afterward becoming obstetrician to the Shōgun's family. AKI apparently wrote no books on obstetrics.

In the Muromachi period (1334–1568), "gynecology"—which included obstetrics—saw the publication, in 1546 or 1547, of apparently the first Japanese handbook on gynecology by Sōkan NANJŌ entitled *Senshū fujinhō*, in three volumes. Shortly after that appeared a one-volume work on the diseases of women by Ishunsai NORITSUKE entitled *Kaden ryōhōroku*, published in 1581; and of uncertain date, but composed during the Azuchi-Momoyama period (1569–1615), a Japanese work entitled *Sanzen-sango hisho* by Roan NAKARAI, which was on treatment before and after delivery, in three volumes. An early work clearly on obstetrics, pre-dating that of the KAGAWAS, was the *Sanka zokuhun*, a popular treatise on midwifery, which was published at Kyōto in 1729, presumably by one "Senan HIRAZUMI" although FUJIKAWA states that the name of the author of this work was "lost."

It has already been remarked that the art o˙ obstetrics was established in Japan, in a scientific sense, by Genetsu or Shigen or Kōrin KAGAWA (1700–1777) with the publication in 1765 of his two-volume work entitled *San-ron*,[37] in which he "invented" many methods for forced delivery. (Indeed, it would seem that Genetsu used anything he could find as obstetrical instruments—whatever would serve the purpose.) The *San-ron* was destined to be the stand-

[36] Much later, Kokumei HIRUTA fostered the belief that the mother should be saved and the child sacrificed, in situations where both could not be saved.

[37] According to FUJIKAWA-Ruhräh's *Japanese Medicine*, the *San-ron* of Genetsu KAGAWA was translated into the Dutch language in 1825, but the writer has, thus far, been unsuccessful in finding any trace of such a translation. At least some parts of the *San-ron* were later translated into German in a paper by B. MIYAKE entitled "Ueber die japanische Geburtshuelfe" (*Mitt. d. deutschen Gesell. f. Nat.-u. Völk. Ostasiens*, 1 (pt. 5): 21–27, Juli 1874; 1 (pt. 8): 9–13, Sept. 1875; 1 (pt. 10): 9–16, Juli 1876). The German paper of MIYAKE was afterward translated into French by Charpentier and published under MIYAKE's name with the title "L'obstetrique au Japon" (*Arch. de tocologie*, 6: 519–546, 599–620, 1879). Each of these papers, in German and French, include illustrations of KAGAWA's obstetrical instruments, showing them in use. The content of the *San-ron* was also summarized in OGATA's Freiburg thesis of 1891, referred to above. Japanese obstetrics attracted some attention in American medical literature, and the *San-ron* was fully described and partly translated into English in a paper by Albert S. Ashmead with the comparatively obscure title "Kangawiana" (*Amer. J. Obstet.*, 27: 541–551, 1893; also in *Gaillard's Med. J.*, 56: 442–451, 1893).

ard authority on obstetrics in Japan for at least a hundred years. That classic work was followed by the *San-ron yoku* written in 1775 by Genteki or Shikei KAGAWA (1739–1779), the adopted son of Genetsu, as a "supplement" to the *San-ron* and to correct the errors in the published work of the elder KAGAWA, resulting in a considerable improvement in obstetrical methods.

Kakuryō or Genshū or Shinhō KATAKURA (1750–1822), a Japanese physician who came from a long line of doctors, had been a pupil of Genetsu KAGAWA, and was himself very famous in obstetrics and gynecology, felt it necessary to write a book to correct what he believed to be the errors in the works of the two KAGAWAS referred to above. The result was the *Sanka hatsumō*, published originally[38] in 1799 in six volumes (bound in four), a treatise on obstetrics described by the author in his preface as "a collection of medical science based on actual experience." At the time of KATAKURA's death, in 1822, another edition was printed, containing a portrait of the author (Plate II D) and words of praise written by one of his friends; otherwise there is no essential difference between the two editions. One of the interesting illustrations in this work is of the cut surface of an abortus[39] at two or three months of pregnancy, described[40] in the following words: ". . . size about that of a squash, of gray color outside; inside is light lavender color; inside there are bright yellow structures like fish eggs, connected with blue and red veins and arteries." One-egg[41] and two-egg twins were recognized by the early Japanese physicians (who were certainly familiar with the morphological variations in placentation, and may have known something of the chorionic membrane of the embryo and the decidua basalis of the uterus, the precursors of the placenta) and were drawn by their illustrators (Plate III A) but, of course, the genetic significance of monozygotic and dizygotic twinning was not then understood. Several illustrations show the position of the fetus in relation to the bony pelvis (redrawn from van Deventer's figures, with no attempt made to change the facial features of the fetus to those characteristic of the Japanese), and there was a description

[38] FUJIKAWA dates this work in the 3rd year of Anei (= 1774), but this could not be confirmed by the two copies in the writer's collection nor by the copy in the Tōkyō University Library. That is also an impossible date since the *San-ron yoku*, one of the two earlier works which precipitated the *Sanka hatsumō*, was not published until 1775.

[39] Japanese methods of inducing abortion were described in an anonymous writing entitled "Ueber die kuenstiche Errekung des Abortus in Japan" (*Mitt. d. deutschen Gesell. f. Nat.-u. Völk. Ostasiens*, 1 (pt. 4): 28–29, Jan. 1874).

[40] It had been thought by the KAGAWAS that the five colors displayed upon section of an abortus proved the ancient belief, inherited from the Chinese, that man was the "embodied essence of the five elements: water [black], fire [red], metal [white], wood [green], and earth [yellow]." KATAKURA clearly stated that his description of an abortus was correct, and that previous representations and/or conceptions of it (i.e., by other persons) were wrong.

[41] The KAGAWAS had asserted that twins with a common placenta would be invariably oriented in utero with both fetal heads in the same direction (i.e., both upward or both downward). Plate III A shows the abandonment by KATAKURA of that belief.

of forceps delivery. Considerable emphasis was placed on the management of the placenta. *Sanka hatsumō* also contained extracts from English and Dutch sources.[42]

Extracts from unspecified English and Dutch works were also incorporated in a two-volume work published in 1773 by Bumpaku YAMANOBE (or Bunpaku YAMABE) with the title *Saniku-hen.*

A contemporary Chinese obstetrical work which may have found its way into Japanese practice was the *Shou-Shi-Pien,*[43] composed by KU Ch'in-Chang in 1785.

Later members of the KAGAWA family also contributed to the obstetrical literature of Japan. Yūsai or Mitzutaka KAGAWA (1734–1793) wrote *Sanka hitsuyō* (n.d.); his son, Ransai or Mitzusada KAGAWA (1772–1833), invented a kind of forceps and wrote a four-volume work entitled *Sanka kibun (or kimon)*; Randai or Mitzunori KAGAWA (1796–1864), apparently the last important figure of that familial dynasty, was an obstetrician of note—thus carrying on the tradition—but he wrote no books.

A quaint thought, but an altogether delightful one, is suggested in the title *San kō*, the interpretation of which we read in the preface as "childbearing . . . is like a ferry boat which is sailing on a big ocean." That two-volume obstetrical work was written entirely in Chinese characters[44] by the Japanese physician Korechika or Ishin KUWABARA, and was first published in 1813 with a later edition in 1821 under the title *Shimpen san kō.* The illustrations are well-drawn. It is intriguing to see again the representation of one-egg and two-egg twins, with no comment in the text other than "the two fetuses have one *ena* [placenta]" or "each fetus has its own *ena,*" respectively. In that work some

[42] Except for specifically mentioning the name of van Deventer, KATAKURA did not give references to the European obstetrical works which he had used, but these have been identified by Ilza Veith in another of her interesting papers entitled "The beginnings of modern Japanese obstetrics" (*Bull. Hist. Med.*, 25: 45–59, 1951) as principally the work of Hendrik van Deventer, his *Dageraat der Vroedvrouwen* (Leyden, 1696), or, possibly, one of the later editions or translations of different title such as his *Manuale Operatien Zijnde een Nieuw Light voor Vroed-meesters en Vroededvrouwen* (Leiden, J. en H. Verbeek, 1734 or 1746). The English source used by KATAKURA is also obscure, but appears to have been the work of William Smellie, his *Anatomical Tables,* probably in Dutch translation by Matthys van der Haage: *Verzameling van Ontleedkundige Afbeeldingen . . . In't Hollands gebragt, en met Plaaten Vermeerderd* (Amsterdam, J. Morterre, 1765). The papers by Dr. Veith, referred to above, also comment upon the *San-ron* and the *San-ron yoku* of the KAGAWAS, the *Sanka shinron* of Ryūtei TATSUNO, the *San'iku zensho* of Sensetsu MIZUHARA, and the *Tassei zusetsu* of Taizō (or Naoyoshi) KONDŌ, with reproductions of illustrations from some of these Japanese works.

[43] Translated into German and published with explanatory notes by Franz Hübotter as *Shou-Shi-Pien. Ein chinesisches Lehrbuch der Geburtshülfe . . .* (Berlin, Urban & Schwarzenberg, 1913. 94 p.)

[44] In the early days Japanese physicians and scholars often studied and wrote in Chinese (much as in medieval Europe where it was customary among scholars to write in Latin).

attempt was made to describe embryonic malformations and fetal monsters, and there is an illustration of anencephalia.

Ryutei TATSUNO, famous for his development of a silk net for obstetrical use, published his *Sanka shinron* first in one volume in 1819 and later in three volumes in 1820. (That work was commented upon and figured in the recent paper by Dr. Veith, referred to in Footnote 42.)

In 1823 appeared a two-volume work giving instructions in obstetrics entitled *Sanka shinan* by Shūsei ŌMAKI. Included in that work was a discussion of normal and abnormal births, various methods of delivery, etc., with treatment for prolapse of the uterus. Examination of the placenta was stressed. Several illustrations showed various positions of the fetus in utero, the small figures of the fetus drawn as charming little Japanese children with well-developed hair (of the head) already trimmed in a contemporary style.

An example of the Japanese counterpart of the European "midwives' books" was afforded by *Zaba hikken*, a separate obstetrical writing but comprising volumes 7 and 8 of *Byōka suchi*. Written by Kakukei HIRANO and published in 1834, *Zaba hikken* was on "knowledge of childbirth about which the midwife should know," and was filled with homely advice. There is a colored illustration of the placenta ("color is first red, then becomes darker") and the umbilical cord ("some cords are short and some are long, and nobody can guess how long it is"). Bags of oil tied to a nozzle[45] were recommended for use by the midwife at time of birth when the "situation" became serious (if the baby got "stuck") to lubricate the birth canal. The material of these bags was important: if of animal skin it must be of the wild pig or deer, if of skin of fish it must be of the swordfish. Enema syringes were made of brass or of bamboo. The relative positions of the mother and of the midwife during delivery were highly (or perhaps efficiently or conveniently) "standardized." A series of illustrations served to instruct the midwife as to what she should do if the baby "cannot go out," in "upside-down" delivery, and for breech, hip, or thigh presentations. "Sometimes the baby is not in the right position, i.e. is transverse in the uterus:

[45] In appearance these were almost identical with a type of enema syringe figured by Lorenz Heister in his work *A General System of Surgery* (London, 1750) which was probably known in Japan in Dutch translation.

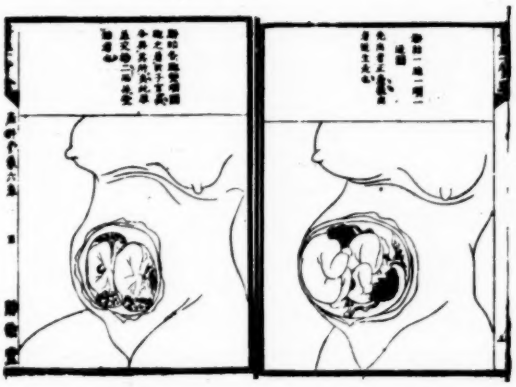
PLATE III

FIG. A. Japanese representations of one-egg and two-egg twins in utero, from original edition of the *Sanka hatsumō*, 1799.

FIG. B. "The picture of forced delivery by turning the fetus," from *Byōka suchi* (*Zaba hikken*), 1834.

FIG. C. A Japanese obstetrician "operating under the sheet," from the *Sanka zushiki*, 1837.

FIG. D. A birth-stool in use in Japan, from the *San'iku zensho*, 1850. Possibly drawn from life.



A

B

C

D

the midwife should insert her hand and search for the feet, then pull downward. This is a serious situation." Another illustration showed "the picture of forced delivery by turning the fetus[46] (Plate III B). *Zaba hikken* is embellished with one of those delights of Japanese artistry—a decorated leaf; in this case the leaf is of the table of contents, showing a motif of growing rice and grasshoppers.

Perhaps the most fascinating of the old books on obstetrics in the writer's collection is a Japanese obstetrical atlas printed in one "accordion-style" volume, composed by Sansetsu or Gihaku or Yoshihiro MIZUHARA (1782–1864) and published in 1837 with the title *Sanka zushiki*. MIZUHARA is now considered to have been the "Semmelweis of Japan," credited with saving many lives of both mother and child because of his knowledge and his inventions—different "styles" of forceps or seekers or probes. Drawings of these Japanese obstetrical instruments (which appear to be variations on those of the KAGAWAS) are shown, with many illustrations of them in practical use. Prudery was not unknown in the practice of Japanese obstetrics, and an illustration (Plate III C) shows the physician "operating under the sheet." (Compare with a similar woodcut in the book by Samuel Janson: *Korte en Bondige Verhandeling, Van de Voortteeling en t'Kinderbaren met den Aenkleve Vandien*, Amsterdam, 1688.) The only advantage this "obscurity" offered the Japanese physician was as a means for him to employ the obstetrical instruments which, by the traditional belief of the unsuspecting mothers of Japan, he was not supposed to use. A second part of this atlas was devoted to illustrative case reports. The artist of the woodcuts for this obstetrical atlas was Unshōrin SHIOKAWA (1807–1877), who also contributed a postscript to that book describing his work. *Sanka zushiki* is a beautiful example of the fine Japanese printing of that period, and the damp-staining of the copy in my collection merely adds to its charm.

In 1850[47] Sansetsu or Gihaku MIZUHARA (1782–1864), whose real given name was Yoshihiro, published his definitive work on obstetrics entitled *San'iku zensho* (sometimes referred to as *Jyunsei-an san'iku zensho*) in 11 volumes, divided into three sections plus an appendix volume. The first section, comprising the first seven volumes, was on general obstetrics with text and illustrations describing placentation, monsters, the use of massage in obstetrics, obstetrical examination per vagina and per rectum, (primitive) po-

[46] In the text it was explained that the purpose of this manipulation by the midwife was to rupture the membranes of the amniotic sac by pulling the feet down. This was an emergency measure used in delayed delivery, inability of the mother to deliver the child, in cases of eclampsia, or if the position (of the fetus) wasn't "right." The midwife's hand was to be inserted into the uterus, but it was cautioned that such a manipulation was difficult or dangerous to do because the hand of the midwife might become paralyzed by sudden contraction of the uterine muscles. (The foregoing explanation is a more or less free translation of the text.)

[47] This date was erroneously given in FUJIKAWA-Ruhräh's *Japanese medicine* as 1837, but is correctly stated as the 3rd year of Kaei (= 1850).

sitions for delivery, preparation of the patient for delivery, and post-partum care of the mother. There is an interesting illustration[48] showing the Japanese equivalent (Plate III D) of the "birth-stools" (obstetrical chairs) in common use in medieval Europe. The second section, comprising volumes 8 to 10, was an amplification of MIZUHARA's earlier atlas, the *Sanka zushiki* (1837), and described additional obstetrical instruments with illustrations showing them in use. Of special interest was an ingenious mechanical contrivance for the forceful extraction of the fetus if it got "stuck," and an illustration of that device which replaced, so to speak, the physician who prior to the development of that infernal machine had often found it necessary to lay on the floor and pull with all his might in the opposite direction whilst pushing with his bare feet planted squarely against the buttocks of the patient with her thighs abducted and externally rotated and her knees in flexion.[49] A series of illustrations in this section of *San'iku zensho* showed the progressive events or stages in the birth of a baby presenting the feet first, one of these drawings being the original of that chosen by Dr. Ruhräh to illustrate his translation of FUJIKAWA's history of medicine in Japan. The management of the placenta was shown. Volume 11 forms all of the third section and treated entirely of prescriptions, in particular those found useful in obstetrical practice. The fourth part was in the form of an appendix, with illustrations of female sex anatomy, innervation of the pelvic region, structure, and blood supply of the placenta, and the visceral connections of the umbilical cord in the newborn. *San'iku zensho* was one of the last Japanese obstetrical writings produced in the period following the "reforms" instituted by Genetsu and Genteki KAGAWA, and is probably the most representative treatise—certainly it was the most comprehensive—on the state of obstetrics in Japan prior to the reopening of that country to Western influences. MIZUHARA also wrote on obstetrical instruments in his *Tanryō zuketsu* (1834), a work in three volumes regarded as one of the most important books in the development of Japanese obstetrics.

In addition to the Western obstetrical works already referred to which found their way into Japan, certain later Japanese translations of other European obstetrical writings should be cited. Keiun or Kyoun YATABE wrote a ten-volume work entitled *Sanshi sanron* published in 1845, which was a translation of Gottlieb Salomon's *Handleiding tot de Verloskunde* (Amsterdam, J. van der Hey, 1817, or later edition of 1826). Gentan SUGITA (1818–1889),

[48] In his illustrations in this work and those in *Sanka zushiki*, the artist appears to have portrayed the figure, head, and facial features of the physician to closely resemble those of the real MIZUHARA; it is doubtful if that was mere coincidence.

[49] These illustrations were reproduced in a paper by W. W. Keen (commenting upon the work of J. C. Berry) entitled "On medical missionary work: with some notes on the condition of medicine in Japan" (*Trans. Coll. Physicians Phila.*, 3rd series, 4: 13–25, 1879), another paper with a somewhat obscure title but which includes notations on this Japanese obstetrical work. See also comments by Dr. Veith (Footnote 42).

who had studied medicine under Riukei SUGITA (the son of the famous Gempaku) and later became Riukei's adopted son, is known to have translated works on geography, hygiene, domestic medicine, etc., from Dutch books and also works on children's diseases, obstetrics, etc., from English books. Of his many translations it is to be noted here that the work of Alfred Meadows, *A Manual of Midwifery* (London, H. Renshaw, 1862 or 1871) appeared at Shidzuoka in Japan in 1875 as Gentan SUGITA's *Sanka hozan*. Uchiniji ISHIKURO, Siniji OZAWA, and Kenriji URASHIMA collaborated in the translation of Karl Ludwig Ernst Schroeder's *Lehrbuch der Geburtshülfe, mit Einschluss der Pathologie der Schwangerschaft und des Wochenbettes* (Bonn, Cohn u. Sohn, various editions 1870–84) which was published at Tōkyō in 1886–89 as their *Shushi sankagaku*.

A textbook on gynecology by Joseph Jakob von Plenck, probably his *Doctrina de morbis sexus feminei* (Vienna, J. G. Binz, 1808), was translated into Japanese by Takudo FUNANARI (also known as Takuto SENKI) and was published as *Fujin byōron* in six volumes in 1850. In 1849 FUNANARI (sometimes called FUNABIKI), who was a famous Japanese gynecologist, composed an *emakimono* (picture-scroll) with the title *Shumpu hatsuiku-zukai*, which depicted figures of the embryo from its early formation following impregnation through its developmental stages and the successive events of the maturing fetus to the delivery.

* * *

A discussion of the books on clinical medicine and an index and checklist to the entire series will be published later.

Notes from London

By the time these notes appear subscribers to the *Proceedings of the First International Congress on Medical Librarianship* should have received the volume. The subscription which the Congress Committee was able to make towards the cost of producing this expensive production covers only a small proportion of the total and unless there is a wide demand for it the publisher will inevitably suffer a loss. It is hoped that as many members as possible will order an 'official' copy at the full price for their libraries, in addition to the personal copy which they have received at the reduced subscription price. Those who have not yet secured or ordered a copy are assured that this is one of the most widely representative collections—on an international level—of our professional literature. In addition to the papers read at the Congress it contains accounts of the chief London medical libraries and an appendix containing two papers submitted to the Congress but unsuitable for reading aloud. One is a list of the incunabula in the Academy of Medicine at Paris by Dr. Maurice Genty and his daughter, Dr. Nicole Genty; the other is an exhaustive bibliography, compiled by Geoffrey Pendrill, of articles on medical librarianship which appeared in the years 1950–53 (May). The volume has 500 pages and is amply illustrated.

* * *

Congress members will recall that one of the results of the final session was the election of two committees, one to consider the time and place of the second Congress and to prepare plans accordingly, the other, composed only of European members, to draft a constitution for a European Medical Library Association. This first draft has now been prepared and is being circulated to all European members of the Congress for their comments and criticisms. It may be possible to formulate a definitive draft in time for the new Association to be inaugurated at the Brussels Congress in September 1955.

One of the most gratifying results of the Congress has been the impetus which it has given to the formation of professional groups. Dr. Kessen, of Leiden, announced at the Congress the formation of a medical section of the Dutch Library Association. News now comes from Paris that Dr. André Hahn has formed a French society of medical librarians, details of which are awaited with interest.

Although these notes are written from London, there is another new feature of medical life in France which must be mentioned. The *Semaine des Hôpitaux* has opened in the Boulevard Saint-Germain in the heart of the medical quarter of Paris, a "Club du Livre Médical." This medical book club has reading rooms and a garden, and a physician specially trained in medical documentation is in constant attendance to help readers in bibliographical research. The club is open to all subscribers to the journal from 9 a.m. to 11 p.m.

The 1954 Week-end Conference of the Medical Section of the Library Association is being held at Leeds, from September 17–20, on the invitation of the University of Leeds School of Medicine. The formal sessions will include a discussion of the *Current List of Medical Literature* and a session of "Any Questions," at which attempts will be made to answer members' queries on any topic connected with medical librarianship. Leeds is a large industrial city, but in the immediate neighbourhood is the celebrated Ilkley Moor, the well-known spa at Harrogate, the ancient city of York with its unique Minster, Bolton Abbey, and Temple Newsam, a splendid 17th century house with a magnificent art collection. With such attractive sweets to follow, even the least conscientious librarian should be ready to give some time to the business meetings.

* * *

The appearance of Estelle Brodman's book *The Development of Medical Bibliography* has been warmly welcomed in Britain. The necessity for writing these notes three months ahead of publication makes it impossible to give it the thorough study which it deserves before commenting upon it, but it is quite obvious that it is the most comprehensive and well-informed survey which has yet been undertaken in this field. Although it will be invaluable to students, it is much more than a text-book and we are assuring medical writers and historians that it is a 'must' for their personal bookshelves.

* * *

Florence Nightingale International Foundation. Members will be interested to learn that it has now been agreed that the Wellcome Historical Medical Library will henceforth co-operate with the Florence Nightingale International Foundation in the realisation of several of its objectives laid down in the Foundation Trust Deed. These are (i) to provide an international information centre on all matters pertaining to the history of the nursing service throughout the world; (ii) to collect all documents, letters, manuscripts, printed books, either as gifts, loans, or in the form of photostat or microfilm copies, written by, to, or about Florence Nightingale and to organize and maintain this material as the Florence Nightingale Collection; (iii) to supply on request any information concerning these documents or concerning the life, work, and influence of Florence Nightingale; (iv) to prepare for publication a Florence Nightingale Bibliography based upon the material referred to in (ii).

The Wellcome Library already possesses an important Nightingale collection, including 500 autograph letters. In order to assist this important project members are urged to report any material of Nightingale interest which they may have in their libraries or may know of elsewhere. The Florence Nightingale International Foundation is associated with the International Council of Nurses and the World Health Organization. All communications should be addressed to Miss K. Sinclair, Florence Nightingale Bibliography, Wellcome Historical Medical Library, 183, Euston Road, London, N.W. 1.

Editorials

THE ANNUAL REPORT

Many librarians with libraries operating on a calendar year basis will soon be struggling with their Annual Report, while those who use a fiscal year base will be drawing breath after the completion of said report. It might, therefore, be appropriate to consider at this time the problem of the Annual Report.

First of all, what should be included in an Annual Report? The answer to this depends partly on who is to receive it. If it is read only by the Dean, Hospital Administrator, Research Director, Library Committee, or Library Staff, it will probably contain more of the administrative details and "housekeeping" worries than if it is reproduced and distributed to a wide audience outside the institution. In most cases, however, certain facts and figures are required by the authorities to whom the report is primarily a concern, and these must not be overlooked.

It is important to keep in mind the purpose of the library Annual Report—which is to give a picture of the library and to point out future needs and plans. Within this frame, there may be many styles. Some authors of library Annual Reports write scholarly, discursive works; others present a document which bristles with figures, charts, mathematical estimates, and tabulated conclusions. Perhaps the saddest reports are those written by individuals whose natural tendency is to compose one kind of report, but who feel constrained to provide the other. Maybe it would be possible for them to relegate part of the report to an appendix, where they can revel in quotations from *Malleus Maleficarum* or Jeremy Bentham or in chi squares and rank-order correlations without detracting from the main portion of their accounting of the library.

In general, an Annual Report should include a discussion of the most important events that have occurred in the library, together with any trends discerned from these events; a listing of the most significant acquisitions made during the year, with special reference to notable gifts and their donors; the statistics of growth, cataloging, circulation (including interlibrary loans), reference and bibliographic services, and exhibits; and important facts about the staff. Usually the raw data are placed in tables in appendixes or footnotes and only the conclusions stated in the text, but occasionally even the tables are given in the body of the report. Just so long as each is clearly differentiated, its location is probably immaterial.

Photographs, charts, and diagrams, both in color and in black and white are appealing and eye-catching if carefully chosen and well-reproduced; but even in mimeographed and photo-offset reports, it is possible to present an esthetically appealing page if attention is given to clear typing, wide margins,

appropriate paper, and interspersed headings. If printing is available, even greater flexibility is feasible.

A useful method for composing an Annual Report is to keep a folder available the year round, into which ideas and facts for the report can be placed whenever they occur. This suggestion is equivalent to the advice usually given to the young writer, to have a pad of paper and a pencil on the night-table so he can record his deathless ideas in the middle of the night if necessary. It is doubtful if many authors actually follow the advice, and it is equally doubtful if many librarians remember the Annual Report beyond the first month or so after they have carefully labelled a folder "Annual Report" and placed it close at hand. Nevertheless, it is still a good piece of advice to all who must compose these narratives.

Before beginning to write the Annual Report, it is frequently helpful to reread the past few reports and to scan the monthly or other accountings of the past year. A re-reading of past reports can keep the librarian from repeating or contradicting himself; it can also give him a point of departure for discussing certain facets of the work. If, for example, a new system of classifying pamphlets was first undertaken with high hopes three years ago, a discussion of the results of the system might now be appropriate. And of course "review" reports, that is, reports of a five or ten year experience, can be extremely valuable; special events, such as a move to a new building or the retirement of a staff member after many years of service, also provide opportunities for "review" reports.

Certain things must be in every Annual Report, it is true, but an Annual Report which sticks to these things alone and presents them year in and year out in a cut and dried manner can be bad publicity for the library. Here, as in many other portions of life, flexibility may mean increased freedom of action.

THE SAMPLE COPY COLLECTION

Some books, as Francis Bacon pointed out three hundred years ago, are not worth repeated studying. Even more so are some journals, which publish poor articles written in poor style on subjects only partly concerned with the basic interests of the library. Librarians, including medical librarians, seem to feel however, that they must continue to get, continue to bind, and continue to store journals whose scope or level of publication make them unfitted for the collection. Frequently, such journals may have changed radically over a period of years, but the idea that there exists some intrinsic worth in the symbol "1+" on a catalog card appears to make it difficult to get rid of the set.

This is not the problem of the small library only where each penny spent and each inch of shelving used must be scrutinized carefully. The *Annual Report* of the Library of Congress for 1953 (p. 81) points out that scientific literature can be divided into four classes, "(a) The basic publications, that should be available . . . with bound material available for retrospective search; (b) less valuable

material that could be retained for a year or so in regular format, and then retained only in microformat . . . (c) material of temporary interest to be discarded after a short interval; and (d) material of which only a sample would be retained to provide information as to its nature and where it was produced."

The sample issue collection of journals has been built up by a number of larger libraries over a period of years. For some time now the New York Public Library has been sending someone out to a nearby newsstand once a year to purchase all the comic books available on that day. This then constitutes its sample collection of comic books for the year. John Shaw Billings, as long ago as 1881 in a just-published letter to the Librarian of the University of Edinburgh,[1] pointed out that the Library of the Surgeon-General's Office secured only a volume or two of certain journals "to serve as samples." The sample collection would thus seem to have the backing of both tradition and logic. Might not a larger number of libraries consider its establishment?

[1] BRODMAN, E. The Development of Medical Bibliography. [Baltimore] Med. Lib. Assn., 1954, p. 118.

Association News

COMMITTEE MEMBERS, 1954–55

Awards Committee

Margaret Gayley Palmer, Chairman	1 year
Ella M. Salmonsen	1 year
Anna C. Holt	3 years
M. Irene Jones	3 years
Esther Judkins	3 years

Bibliography Committee

Mrs. Eileen R. Cunningham, Chairman
Janet Doe
Catherine Kennedy
Frank B. Rogers, Lt. Col., MC, USA
Winifred Sewell

Criteria and Standards for Pharmacy School Libraries

Mrs. Elizabeth Johnson, Chairman
Charlotte E. Coffman
Mrs. Emilie E. Dole
Mrs. Ina Pearson
Clara A. Robeson
Mrs. Dorothea Wheeler

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Anna E. Dougherty, Associate Editor
Charles C. Colby, III, Business Manager
Donald Washburn, D.D.S., Assistant Business Manager
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Pauline Duffield
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Bertha B. Hallam
Emerson Crosby Kelly, M.D.
Foster Mohrhardt

Handbook of Medical Library Practice

Janet Doe, Editor
Mary Louise Marshall, Co-Editor

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Robert T. Lentz, Co-Chairman
Mrs. Jacqueline W. Felter
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Pauline M. Vaillancourt
Mrs. Creola D. Wilson
Helen Woelfel

Misnomers Committee

Marguerite Gima
Kathleen Worst

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Thomas H. Cahalan, Chairman	1 year
Mildred R. Crowe	2 years
Mary Post	3 years

Organization Manual

Mrs. Helen F. Rich

Periodicals and Serial Publications Committee

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Virginia Beatty
William K. Beatty
Ilse Bry
Samuel Lazerow
Adeline Redheffer

Personnel Survey

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Mrs. Simone C. Hurst
Beatrice Marriott
Clara Louise Meckel
Hilda E. Moore

Program and Entertainment Committee

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Helen Crawford
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Thomas E. Keys
L. Margueriete Prime
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Mary Louise Marshall

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Scott Adams, Chairman
Louise Darling
Alderson Fry
Samuel Lazerow
Henrietta T. Perkins
William D. Postell

Standards for Medical Librarianship Committee

William D. Postell, Chairman
Mildred M. Jordan, Assistant Chairman
Scott Adams
Isabelle T. Anderson
Louise Darling
Clara Manson

Subcommittee on Certification

Isabelle T. Anderson, Chairman	1 year
Heath Babcock	2 years
Dorothy Cramer	3 years
Mrs. Bernice M. Hetzner	4 years

Subcommittee on Curriculum

Scott Adams, Chairman	1 year
Louise C. Lage	2 years
Eleanor G. Steinke	3 years
Doreen E. Fraser	4 years

Subcommittee on Internship

Clara Manson, Chairman	1 year
M. Irene Jones	2 years
Flora E. Herman	3 years
Clara Louise Meckel	4 years

Subcommittee on Recruitment

Louise Darling, Chairman	1 year
Nettie A. Mehne	3 years

Representatives on Joint Committees

American Documentation Institute

Sanford V. Larkey, M.D.

Council of National Library Associations

Sanford V. Larkey, M.D.	2 years
Wilma Troxel	

Joint Committee on Library Education (CNLA)

Mrs. Eileen R. Cunningham

Joint Committee on Library Work as a Career (ALA)

Nettie A. Mehne

Joint Microcard Committee

Charlotte E. Coffman

Joint Committee on the Protection of Cultural and Scientific Resources (CNLA)

Scott Adams

Joint Committee on Standards for Pharmacy School Libraries (AACP)

Charlotte E. Coffman
Clara A. Robeson

Union List of Serials

Kanardy L. Taylor

United States Book Exchange, Inc.

Jacqueline Chambers

Association Installs New Fiscal System

In order to lighten the burden of the Treasurer, the Medical Library Association has employed the firm of Reilly, Penner and Benton to handle bookkeeping and fiscal accounts. This is in addition to turning over the accounts for the Bulletin to the Business Manager of that publication.

1955 Annual Meeting in Milwaukee

The next Annual Meeting of the Association will be held at the Hotel Schroeder in Milwaukee, Wisconsin, from May 17 to 20th, 1955. One session will also be held at the Medical School of the University of Wisconsin in Madison. A preliminary program will appear in the January issue. Mrs. Edith Dernehl, Librarian of Marquette University Schools of Medicine and Dentistry, is in charge of the convention.

News Items

MEDICAL SECTION OF THE LIBRARY ASSOCIATION MEETS

On Wednesday, May 19, the Medical Section of the Library Association met at the Library of the Royal College of Physicians of London, where the Harveian Librarian, Professor Sir Charles Dodds, M.V.O., M.D., F.R.C.P., F.R.S., spoke on the history and principal features of the Library.

AMERICAN LIBRARY ASSOCIATION MEETING

With their theme, "Knowledge—A Free People's Surest Strength," more than 3500 librarians from all parts of America participated in the 73rd annual conference of the American Library Association held at the Twin Cities, Minneapolis—St. Paul, June 20 to 26.

Presiding was Miss Flora B. Ludington, Mt. Holyoke College Librarian. Mrs. Oveta Culp Hobby, Secretary, U. S. Department of Health, Education and Welfare, and Dr. James Lewis Morrill, President, University of Minnesota, were the speakers at the first general session, Monday, June 21. At the second general session, Friday, June 25, the speaker was Dr. Charles W. Mayo, Mayo Clinic, Rochester, who is president of the American Association for United Nations.

L. Quincy Mumford, former Librarian of the Cleveland Public Library and present Librarian of Congress, who had been serving as ALA President-elect, was inaugurated as President at the second general session.

CONFUSION OF TITLE: MEDICAL RECORD LIBRARIAN

The Hospital Libraries Division of the American Library Association has protested through its Public Relations Coordinator the confusion created by the title Medical Records Librarian as follows:

130 West Kingsbridge Road
Bronx 68, N. Y.
July 14, 1954

Mr. Robert C. Goodwin, Director
U. S. Employment Service
Bureau of Employment Security
United States Department of Labor
Washington 25, D. C.

Dear Mr. Goodwin:

The librarians of the Hospital Libraries Division of the American Library Association were pleased, indeed, to see that your publica-

tion, *Occupational Outlook Handbook, Bulletin No. 998, Bureau of Labor Statistics, 1951 edition* not only gave an accurate job description of medical record librarians, but also contained the important caution:

> "The medical record librarian should not be confused with medical librarians who have charge of a medical library in a hospital or medical institution . . ." (p. 76)

We were equally dismayed when a more recent publication of your Agency entitled, *Job Guide for Medical Occupations, April 1954* recorded the very confusion against which you had warned.

In the Table of Contents and on page 7 of the *Job Guide* you refer to "medical record librarians" as follows:

> "Accredited schools require four years of college, one year of library school, and internship where possible. Courses in administration, cataloging, reference and bibliography are part of the curriculum. In 1951, there were 21 approved programs offered for the training of medical record librarians."

In the column, "Sources for Information" you list the Medical Library Association, New York Academy of Medicine, and the American Medical Association as agencies for further details.

We strongly urge that you clarify this situation. The above quotation, supposedly referring to "medical record librarians," actually covers another job description, the "medical librarian." Such confusion is undoubtedly invited, when one group, in this case the personnel handling medical records, assumes the professional title of another, i.e., the medical librarians.

As librarians, we have been concerned, for some time, with the manifold results of this unfortunate confusion. This concern has been increased by the fact that the misrepresentation now appears in print under the authority of your Agency. We hope that adequate corrections will be made to prevent this error from being perpetuated.

Yours very truly,

MARGARET M. KINNEY
Public Relations Coordinator,
Hospital Libraries Division
American Library Association

OFFICERS OF SPECIAL LIBRARIES ASSOCIATION

Miss Gretchen D. Little of Atlas Powder Company, Wilmington, Delaware, was installed as President of the Special Libraries Association at the annual business meeting of the Association held in Cincinnati, Ohio, on Thursday,

May 20, 1954. The membership of the Association comprises over 5,000 literature specialists, including librarians associated with government, industry, institutions, and others requiring special library services. Miss Little is in charge of technical library service for all Atlas Powder Company plants and offices throughout the United States.

Other officers installed at the annual meeting were Mr. Chester D. Lewis, First Vice-President and President-Elect; Miss Isabella M. Frost, Second Vice-President; Dr. Burton W. Adkinson, Treasurer; Miss Margaret A. Firth, Secretary; also the following Directors for Three Years, Miss Sara M. Price and Dr. Else L. Schulze.

PHARMACEUTICAL SECTION OF SPECIAL LIBRARIES ASSOCIATION INSTALLS NEW OFFICERS

The following officers were elected to the Pharmaceutical Section of Special Libraries Association at its recent annual convention held at the Netherland Plaza Hotel, Cincinnati, Ohio: Chairman, Mrs. Claire K. Schultz, Librarian, Sharp and Dohme Division, Merck and Company, Inc., West Point, Pennsylvania; Vice Chairman, Miss Jewell Maurice, Assistant Librarian, Eli Lilly and Company, Indianapolis 6, Indiana; Secretary, Mr. James Olsen, Librarian, Smith, Kline and French Laboratories, 1530 Spring Garden Street, Philadelphia 1, Pennsylvania; Treasurer, Miss Frances Stratton, Lederle Laboratories, American Cyanamid Company, Pearl River, New York.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS TO MEET

The 31st Annual Convention of the National Society for Crippled Children and Adults will be held in Boston, November 3–5, 1954, at the Hotel Statler. A number of authorities on rehabilitation will take part in the meeting.

BIBLIOGRAPHIES AVAILABLE

The National Academy of Sciences has undertaken the compilation of bibliographies in the field of disaster research. These bibliographies, which have been compiled by the Committee on Disaster Studies' Clearinghouse, are available in mimeograph form upon request to any individual or agency interested in disaster research or planning for disaster relief. New bibliographies may be prepared for those individuals or agencies actively engaged in the administrative or planning aspects of disaster relief or in disaster research, although naturally the Committee's sponsors get priority service.

CATALOG OF EARLY VETERINARY BOOKS AVAILABLE

The Library of the Royal College of Veterinary Surgeons has produced a Catalogue of the historical collection of books published before 1850. Copies

can be obtained from the College, 9 Red Lion Square, London, W. C. 1. Price 2s. 6d.

SUPPLEMENT TO PLARR'S *LIVES* PUBLISHED

A new volume of Plarr's *Lives of the Fellows of the Royal College of Surgeons of England* has just appeared. This new volume was started by the late Sir D'Arcy Power and completed by Mr. W. R. LeFanu; it includes the lives of Fellows who died between 1930 and 1951.

NEW JOURNAL

The Chilean Iodine Educational Bureau, Stone House, Bishopsgate, London, E. C. 2, has just issued gratis No. 1 of *Current Iodine Literature.*

HUMAN BIOLOGY UNDER NEW SPONSORSHIP

Human Biology, founded in 1929 by the late Raymond Pearl, will be published by the Wayne University Press, under the editorship of Gabriel Ward Lasker, Assistant Professor of Anatomy, Wayne University College of Medicine. This 26 year old quarterly will continue to be a "record of research," with special emphasis on the biometry and growth of man and the other primates. Though published in America, *Human Biology* will remain international in coverage, accepting articles from the entire world.

COUNSELOR LIBRARIANS

The March 1954 issue of the University of Illinois Library School's Occasional Papers is entitled *Counselor Librarianship: A New Departure.* It is Number 38 in the series, and has been written by David K. Maxfield, Librarian and Associate Professor at the Chicago Undergraduate Division of the University of Illinois.

A new counselor librarian program, inaugurated in the author's library in 1951, is described and evaluated. Counseling methods and counseling literature are presented. Special emphasis is placed on implications for other types of libraries, including school, junior college, four-year college, university, public, and special.

A copy of this paper will be sent to any individual or institution without charge.

CLENDENING LECTURES DELIVERED

The fifth series of the Clendening Lectures on the History and Philosophy of Medicine was given on March 24 and 25, 1954, by Dr. Douglas Guthrie, lecturer in the history of medicine at the University of Edinburgh. Dr. Guthrie's first lecture, given in Lawrence, was on "Witchcraft and Witch Doctors." The second lecture, in Kansas City, was on "Lister and his Achievement."

GUFFEY PRIZES ON HISTORY OF MEDICINE AWARDED

On the occasion of the second Clendening Lecture, the prizes offered by Dr. Don Carlos Guffey were announced. The first prize of $100 was awarded to Mr. Thomas J. Fritzlen for his paper on "Johannes Müller, the Father of Scientific German Medicine." The second prize of $50 went to Mr. Reuben J. Burkman for his paper on "Gout: A Brief Review of its History." Honorable mention was given to Mr. Jack M. Catlett for his paper on "Moliére and Seventeenth Century Medicine in Paris."

CHANGED NAME

The Medical Library of the Academy of Medicine of Northern New Jersey at Newark, N. J., has enlarged its scope of action; the word "Northern" has officially been dropped from the corporate name of the Academy.

U. S. BOOK EXCHANGE TO PROVIDE TECHNICAL BOOKS TO FOA NATIONS

The Foreign Operations Administration has entered a two-year contract to pay the United States Book Exchange, Inc., $50,000 a year to furnish technical, scientific, and educational literature to libraries in 53 countries.

The Foreign Operations Administration funds are expected to be utilized geographically as follows: Latin America, $36,000; Near East, $32,000; South Asia, $18,000; Far East, $10,000; and Europe, $4,000.

One of the primary purposes of the contract is to build up back-issue stocks of technical periodicals and books in countries which are participating in the FOA program.

Among the Exchange's stocks of publications now available to libraries in FOA countries are many in the fields of medicine or public health, industry, science, agriculture, and education.

Medical publications include, for example, such titles as *A Survey of Antimalarial Drugs, A History of the Medical Department of the U. S. Army, Textbook of Anatomy and Physiology for Nurses, A Textbook of Nursing Techniques, Operating Table Technique, and Approved Laboratory Technique.*

PERSONNEL TESTING FOR LIBRARIANSHIP

Appointed in January, 1954, and recently announced by President Flora B. Ludington, a special A. L. A. Committee on Measurement and Guidance is now exploring the application of personnel testing techniques to librarianship. Its immediate objective is to prepare a detailed statement of the purpose, need, methods, results, and cost of a study-project on Measurement and Guidance in Library Education and Professional Employment. Upon completion, this project proposal will be analyzed by the official Association groups concerned and

recommendations for its disposition made to the A. L. A. Executive Board. Chairman of the Committee is Mr. Edward A. Chapman, Librarian, Rensselaer Polytechnic Institute, Troy, New York.

PERSONAL NOTES

Mrs. H. M. Brandreth has been appointed as Medical Section Reporter to the Library Association Record.

Miss Alberta L. Brown, Head Librarian of the Upjohn Company, was honored at the Seventh Anniversary dinner of the Pharmaceutical Section of the Special Libraries Association at its Annual Convention in Cincinnati recently. Tributes to Miss Brown, as founder of the Section, were given by members from the pharmaceutical industry. She was presented a deluxe edition of the Pharmaceutical Section issue of *Special Libraries Bulletin* devoted to the achievements and accomplishments of the Section under her direction and guidance. Among the well-known publications of the Pharmaceutical Section are: *Unlisted Drugs*, *Union List of Periodicals in Pharmaceutical Libraries*, and *Copnip List*. Miss Brown was also honored as retiring Chairman of the Science-Technology Division of the Special Libraries Association during 1953–1954.

Mead Johnson & Company announced the appointment of *Miss Elizabeth S. Eaton* as head librarian. Miss Eaton was formerly chief librarian at the Veterans Administration Research hospital in Chicago.

Mr. H. D. Erlam, who visited the U. S. and Great Britain last year as a Medical Library Association Fellow, has been appointed Librarian of the Medical School Library, Dunedin, New Zealand.

Mr. Alderson Fry has resigned his position of Librarian of the Health Sciences Library, University of Washington, to become Librarian of the new medical Center Library at the University of West Virginia.

Rita L. Goodemote has been appointed Librarian at Schering Corporation, Bloomfield, New Jersey.

Messrs. G. J. Hipkins, *W. A. Lee*, *W. R. LeFanu*, and *F. N. L. Poynter* have been appointed to represent the Medical Section on the Joint Committee of the Medical, Reference and Special Libraries, and University and Research Sections, Library Association.

Miss Dorothy Mewshaw formerly on the staff of the Armed Forces Medical Library is now in the Reference Department of the Biomedical Library, University of California in Los Angeles.

Miss Eleanor Mitten, formerly at the Harper Hospital Library in Detroit, has become Assistant Librarian of the New York State Veterinary College at Cornell University.

Mr. H. A. Rydings from the Birmingham Medical School Library has been appointed Librarian at Fourah Bay College, Freetown, Sierra Leone.

Mr. F. A. Tubbs, has been appointed to act as the Medical Section Representative on the London and Home Counties Branch Committee.

Book Reviews and Journal Notes

HAHN, ANDRÉ, PAULE DUMAITRE, AND JANINE SAMION. Les livres médicaux du xix^e^ siècle à la Bibliothèque de la Faculté de Médecine de Paris. Paris, 1953. 23 p. illus. Reprinted from La Semaine des Hopitaux de Paris, 29: 4056–4087, 1953.

The nineteenth century is generally considered poor in medical bibliophilia, but so diversified was the century, so great the scientific and medical progress, and so prolific the publication that this reputation seemed not entirely justified. Moreover, illustrations still showed esthetic concern, and copper engraving, wood engraving, and lithography relieved the austere text.

Reflecting upon these facts, Dr. André Hahn, Curator, and Paule Dumaitre, Librarian, with the assistance of Janine Samion, a temporary librarian, of the Bibliothèque de la Faculté de Médecine of the University of Paris, undertook to make a survey of the nineteenth century medical works owned by the Library and to select those volumes that still have an interest for the bibliophile. The selections are based upon the beauty or interest of the illustrations or on some particular documentary value of the work. The period covered is from the beginning of the century until 1870 when photography and modern scientific techniques in illustration replaced the more artistic forms.

Approximately eighty works are described in many fields, including those of anatomy, dermatology, and surgery. The works on anatomy proportionately outnumber others cited because of the wealth and beauty of their illustrations. These include the folio volumes which contain the anatomical drawings of the great Italian anatomist Mascagni, published posthumously early in the century; volumes illustrated by the fine and technical copper engravings of the English surgeon Charles Bell; and, later in the century, Bourgery's *Traité complet de l'anatomie de l'homme*, 1832–1856, illustrated with 700 lithographed plates by Jacob. Cruveilhier's *Anatomie pathologique du corps humain*, published in forty folio numbers, 1828–1842, is illustrated with more than 200 coloured lithographs by Chazal and is described as a magnificent work. Dermatology is represented by the works of Alibert, all of which are noted for their beauty, especially the *Description de maladies de la peau*, published in folio volumes, 1806–1814, and illustrated with fifty-three coloured engravings by Couché, that have the quality of artistic compositions. The most famous plate, however, the unattractive Tree of Dermatoses, which somewhat resembles a genealogical tree and graphically sets forth Alibert's classification of skin diseases, appeared in various editions of other works. In surgery, it is especially in Charles Bell's *Illustrations of the Great Operations of Surgery*, 1821, that operative methods of the period are most clearly illustrated by the author's own drawings.

Rare works owned by the Bibliothèque de la Faculté de Médecine de Paris

include Sabatini's *Tavole anatomicae per li pittori à gli scultori*, 1816, whose entire text and illustrations are engraved on copper. The *Mémoires de chirurgie militaire*, 1812–1817, by Dominique Larrey, surgeon-in-chief of the Grande Armée has a dual interest, historic as well as scientific. The work contains many anecdotes of the Napoleonic campaigns and copper engravings representing military life under the Empire. Perhaps the Library's rarest volume of the period is the original edition of Laënnec's *De l'auscultation médiate*, 1825. The Library also owns the rare second edition, *Traité de l'ausculation médiate*, 1826. The illustrations of both editions are by Ambroise Tardieu, and those of the second edition are signed.

The best known artists of the time, such as Girodet, Girardet, Langlumé, Jacob, Chazal, and Tardieu occasionally contributed and sometimes signed illustrations for scientific books. It is from the point of view of illustration that two works of medical satire are of interest. Louis Huart's *Physiologie du médecin*, 1840, is illustrated with many amusing woodcuts, a form of illustration which has recently regained favor, and François Fabre's *Némésis médicale illustrée*, 1840, contains thirty lithographed vignettes by the hand of the great Daumier.

The selections have been made with discernment and devotion, and the paper is written with great charm in a warm and personal style, reflecting a touch of nostalgia and great, and justifiable, national pride.

KATHERINE UHLER

ROYAL COLLEGE OF VETERINARY SURGEONS, LONDON. LIBRARY. *Catalogue of the Historical Collection: Books Published before 1950*. London, 1953. 36 p.

According to the preface this small pamphlet is the first printed catalogue of the Historical Collection of the Royal College of Veterinary Surgeons. The College was founded by Royal charter in 1844 and throughout its years of existence the Library has received gifts of books from members of the veterinary profession. Some of the books were in the personal libraries of the founder members and a note of their signatures is made in the catalog entries, as well as notation of book plates.

There are cross-references from editors, translators, and engravers as well as pseudonyms and this increases the value of its reference use to a great extent. Since the Catalogue covers books published before 1850, it will be an extremely useful addition to the literature of the history of veterinary medicine. Included are some books on early medicine, human anatomy, and physiology, and several editions of the Pharmacopoeia of the Royal College of Physicians of London. Such inclusions increase the use of the Catalogue as well as emphasize the closer relationship between human and veterinary medicine.

All librarians of veterinary medicine libraries will welcome this addition to the literature of their field as well as those interested in the broader aspects of

the history of medicine as a whole. The librarian of the Royal College of Veterinary Surgeons is to be congratulated for her efforts on our behalf.

ALICE M. PURINGTON

The Armed Forces Medical Library, an all-inclusive depository of medical literature. Burrell Announcer of Scientific Equipment, 54, No. 4:4–7, 1954.

If we as librarians like to think of the medical library as one of the tools at the disposal of the investigator, then it is altogether fitting that an account of the operation and use of our national medical library be published in a brochure listing other scientific equipment. This unsigned description of the Armed Forces Medical Library includes a note on John Shaw Billings and short paragraphs on the Library's buildings, collections, publications, services, and special bibliographies. There are photographs of the building and of several of the A. F. M. L. Divisions at work. Part of the A. F. M. L. bookplate is reproduced on the cover of the issue.

MARIE HARVIN

BRODMAN, ESTELLE. Whither education for medical librarians? Stechert-Hafner Book News, 8: 61–2, 1954.

This brief but provocative presentation of the trends in education for librarianship places the future of medical librarianship in the hands of the profession at large. Judging by the attendance at the First International Congress on Medical Librarianship held at London in July 1953—over 300 people from 32 countries—this responsibility is international in scope. As the author indicates "the challenge of education for medical librarians today is not the *how* but the *why* of medical librarianship, and unfortunately very little has been done to answer this basic question." It is to be hoped that the profession will respond to this challenge for the development of a clear statement of the objectives and philosophic aims of medical librarianship.

FRANCES B. JENKINS, Ph.D.

STALLMAN, ESTHER L. *Library Internships: History, Purpose, and a Proposal.* Urbana, 1954. 23 p. (Univ. of Illinois Library School. Occasional Papers, No. 37) Free.

Miss Stallman, Associate Professor at the University of Texas Graduate School of Library Science, has reviewed the literature on library internships, discussing the contributions of C. C. Williamson, Wyllis Wright, Francis St. John, and others, as well as the experience with internships of physicians, dietitians, psychologists, social workers, and public administrators. She points out that while many others have talked about library internships, the Medical Library Association is the only professional group which has done anything about it. A description of the Association's system is given.

The second part of the paper is a concrete proposal for setting up an intern-

ship program in libraries. The material is divided into the objectives of the program (both for the intern and the library), selection of libraries (including minimum standards for the staff), organization and conduct of the internship, the contract between the library and the school, and reports on the intern's work.

This paper should be valuable to medical libraries contemplating certification by the Medical Library Association as libraries to train interns.

ESTELLE BRODMAN, Ph.D.

SHRYOCK, RICHARD H. *The Unique Influence of the Johns Hopkins University on American Medicine*. Copenhagen, Munksgaard, 1953. 77 p. (Acta Historica Scientiarum Naturalium et Medicinalium, vol. 10) Paper, Dan. Kr. 14; bound, Dan. Kr. 17.50.

In 1850, medicine in the United States was being practised, for the most part, in a provincial and sectarian manner, and medical education was generally inadequate. Anatomy was only a tool of surgery, while pathology was taught only by means of lectures. Students who desired further study, and who were fortunate enough to be able to go abroad, usually went to France. Several decades later, an equal if not greater influence began to be exerted by the various German schools on American students—and through them on the development of medicine in this country.

During the three decades following 1850, however, forces came into play which ultimately were to revolutionize American medicine. In the industrial expansion during and after the Civil War vast surpluses of wealth were accumulated, and these resources were made available for the advancement of medicine. At the same time it was recognized within medicine that reform of medical training was required for any advance. During the 'seventies and 'eighties efforts to improve medical education were undertaken concurrently in a number of places in the United States, notably at Boston (Harvard), New York (Bellevue), and Baltimore (Hopkins).

The last of these was by far the most significant for the future, largely because the medical school was created as an integral element of University. The story of the Johns Hopkins Medical School has been told before from various points of view. However, in the publication reviewed here, Dr. Shryock recounts this focal development in terms of the Johns Hopkins University rather than of the Medical School. Succinctly and clearly he indicates the overriding importance of the fact that the University from the very outset was a graduate school. The spirit and purpose which created graduate education were applied to the reform of medical education. The importance of the medical from its inception rested on this fact—that it set an example. This carried straight through the selection of the staff, the reform of entrance requirements, the limitation in the number of the entering class, the recognition of the im-

portance of the basic sciences, and the four-year course. Shryock pays tribute to the founders—especially Gilman in the University, and Welch in the Medical School. After indicating the initial contributions of the Hopkins School, he goes on to trace the further development of the School up to the present. Among the topics discussed are the full-time system, the creation of the School of Hygiene, the Phipps Clinic, and the Institute of the History of Medicine. Throughout the study, the history of the medical institutions of the University is discussed always with the social and cultural background in mind. This is a good, brief account of an important facet in the recent history of the United States.

GEORGE ROSEN, M.D.

O'DONNELL, THOMAS C. *Tip of the Hill: An Informal History of Fairfield Academy and Fairfield Medical College.* [1st ed.] Boonville, N. Y., Black River Books, 1953. 256 p. $4.00.

This book is the history of two educational institutions in the small village of Fairfield, Herkimer County, in central New York state. The author states that by the word "informal" in the subtitle he indicates omission of documentation, statistical tables, and index. The lack of an index is a serious deficiency in a history of educational institutions because it requires rereading of several chapters and many pages to locate information on a particular event.

Many villages in New England established academies in the final quarter of the eighteenth century. The beginning of incorporation of academies in the state of New York was in 1787 and Fairfield Academy was the twenty-first academy incorporated in New York.

Several residents of Fairfield began in 1802 to collect funds to secure an academy in their village. There was no academy in Herkimer County at that time. A charter was granted on March 15, 1803, and instruction was begun within a month. The Rev. Caleb Alexander, who had been a missionary in Herkimer County for two years, was selected as principal and served until 1812.

The history of this Academy, until it closed in 1901 after ninety-eight years of activity, includes many interesting features. The trustees endeavored to secure a charter as a college in 1908, which would have given authority to grant degrees, but failed. The institution became coeducational in 1840. It was a successful institution notwithstanding several crises and frequent changes of principals. In 1861 the attendance rose to 551 and was more than 200 in many later years. The students came mainly from central New York with a few from adjacent states. Many of its graduates reached high positions in various states of the union.

The rise of high schools in the state began about 1875 and their increase resulted in falling attendance in the last decade of the nineteenth century. Similar results were found in many states and by 1900 academies had much

diminished in number throughout the eastern part of the United States. The major cause of the closing of Fairfield Academy was the competition of high schools. However, the readers of the journal for which this review is written are more interested in the medical college in this village than in the secondary education in that location.

A new instructor in the Academy in 1806 added anatomy and pharmacy to the teaching of chemistry and physics, which had previously been the only science subjects taught. This instructor was succeeded in 1809 by a graduate in both arts and medicine at Dartmouth College; soon three other physicians were added to the teaching staff, and instruction in medical subjects was increased by courses in medicine, surgery, and obstetrics. Medical jurisprudence was added several years later. In 1811–1812, forty-three students were being instructed in medical subjects.

Several medical colleges have arisen in colleges of arts but this is the only instance, as far as this reviewer can ascertain, when medical instruction was given in an academy. No degrees could be given the students who completed the courses in medical subjects. The several able teachers of medical subjects wished to grant the degree of Doctor of Medicine. They applied, therefore, for a charter as a medical college. A charter was granted on June 12, 1812, under the name of "The College of Physicians and Surgeons of the Western District of New York."

This long and cumbersome official name invites explanation. New York state at that time was divided on the basis of population into three districts; southern, the smallest in area, northern, and western, much the largest in geographical area. The only existing medical college in the state was the College of Physicians and Surgeons of the City of New York, which was in the southern district. The clause "of the Western District" was necessary to distinguish the upstate medical college from the one with a similar name in New York City. However, the upstate institution was usually known as Fairfield Medical College.

In the early years the Medical College received $15,000 from the state treasury used mainly for buildings and teaching equipment. The charter provided that the degrees should be conferred by the Regents of the University of the State of New York upon recommendation of the faculty and trustees of the Medical College. A similar provision pertained to the medical college in New York City. (The University of the State of New York was founded in 1784 and gave no instruction directly; it was really a state board of education.)

The length of session was twelve weeks until 1821 and sixteen weeks thereafter. Fairfield Medical College was one of the first to increase the teaching session to sixteen weeks. It was the eleventh medical college established in the American Colonies and the United States. The teaching was almost all by lectures with demonstrations in chemistry. Few clinical lectures were given because of the scarcity of patients for clinical teaching. The only personal par-

ticipation of students in instruction of the nature of laboratory work was human dissection.

Two physicians were instructors prior to the charter and ten more under the charter. The number of professors in each session was four or five plus a demonstrator of anatomy. Four of these men taught from nineteen to twenty-seven years. Among them were ten men who were eminent in medical education and practice. Several of these were professors in other medical colleges either before or after teaching at Fairfield. This experienced and capable faculty soon brought to this institution the reputation of being one of the most efficient medical colleges in the United States and brought students from many states. Increase of attendance was constant until in 1833–1834 there were 217 students. Only the medical departments of the University of Pennsylvania and of Transylvania University in Kentucky had more students.

The total number of degrees of Doctor of Medicine was 609 of which about twenty were honorary or *ad eundem* degrees. Many of these graduates became prominent in medical practice and medical education. Eighteen of them became professors in other medical colleges and several were leaders in founding new medical colleges in the Middle West. More than four times as many men attended one session as received medical degrees. More than 300 of these nongraduates were graduated at other medical colleges. Fairfield Medical College became the pattern for many other medical colleges founded in small towns. This institution had a profound influence in the states west of New York in medical practice, education, and organization through its graduates.

Attendance declined after 1835 because of the founding of several new medical colleges in New York and adjacent states. These new colleges brought the resignation of several professors at Fairfield to accept professorships in the new institutions and the vacancies could not be filled with teachers of equal experience and proficiency. Attendance declined until in 1839–1840 it was less than one-half of that six years earlier and the institution was closed at the end of the session of 1839–1840.

The book is well written in a style that is an informal narrative rather than formal historical treatment. The paper, type, and illustrations are excellent and the binding attractive. One-fourth of the book is devoted to the Medical College and contains much information that has not heretofore been printed. However, there is still needed a formal and definitive history of this pioneer medical college with documentation, statistical tables, and an index.

FREDERICK C. WAITE, M.D.

LEFANU, WILLIAM R. *A Bio-Bibliography of Edward Jenner, 1749–1823.* Philadelphia, Lippincott, 1951. 176 p. illus. $16.00. (Limited numbered edition)

William R. LeFanu is the scholarly Librarian of the Royal College of Sur-

geons. He has compiled a most useful bibliography of Jenner. The principal sources of his material were the Library at the College, the Wellcome Historical Medical Museum, and the British Museum. However, Mr. LeFanu includes an "Index of Recorded Copies" in nearly 80 other public and private collections in Europe, North America, and Australia.

Mr. LeFanu has achieved his purpose of making widely available a survey and listing of Jenner's writings. The author is correct in saying that Jenner's great discovery, perhaps the greatest discovery in empirical medicine, of smallpox vaccination has overshadowed his other investigations. The *Bio-Bibliography* not only lists the results of Jenner's other investigations, but also evaluates them.

This book will be a necessary tool for anyone doing historical work on Jenner and his period and a source of new information, since it also contributes additional facts to our present knowledge of Jenner. The author has been able to clarify several hazy points such as the order of events which lead to Jenner's discovery of the cause of Angina pectoris. The book is a scholarly contribution both to medical bibliography and medical history.

The volume is well printed, attractively bound, and has helpful illustrations.

FREDERICK G. KILGOUR

BAINTON, ROLAND H. *Hunted Heretic, the Life and Death of Michael Servetus.* Boston, Beacon Press [1953] xii, 270 p. illus., port. $3.75.

It seems legitimate to assert that our age which is held in torment by the competing threats of Nazi and communist tyrannies, has seen more martyrs to science per half decade than have been sacrificed to persecution by all preceding history put together. In spite of this we shall never lose interest in the few unhappy victims of the past, even those we chose to regard as martyrs to science contrary to fact. Among these Michael Servetus occupies a place of honor second only to that of Giordano Bruno, though neither died for science. Both were however legitimate victims of man's innate and often uncontrolled dislike of heresy. In the Middle Ages it was practiced in the name of true devotion to God, and now it rages in the name of Marxism-Leninism. Bruno's death was decreed by the Inquisition, Servetus' by Calvin and his Genevan Council.

The present work is a valuable biography of Michael Servetus. It recounts in brief but well documented sections the ideas and the fate of this restless spirit, one of the few rebel wanderers of the transition period from medieval to modern times. The book is both scholarly and well written and amply provided with historical references. It concerns itself more with Servetus as religious writer and thinker than with his science or medicine, which is as it should be. It is not certain that Servetus finished medical school, and the religious controversies

and disputations played far greater roles in this sad life than did his medical or astrological writings. The book does contain, however, a solid and informative chapter on Servetus as Doctor of Medicine, and on his contributions to the growing knowledge of the pulmonary circulation. There is also a discussion of the equivocal role of astrology in the medical theory and practice of the time. The author's impulse is to defend Servetus by saying: "He did not allocate portions of the body to the constellations. His point was rather that the weather affects the body and the stars affect the weather." In reality, all medical thought of the period foundered in the astrological dilemma, knowing it had forbidden corners but not knowing where to stop.

That many of Servetus' difficulties might have been due to the same personality problem which plagued Bruno, seems very likely. A contemporary physician who dared investigate syphilis without the aid of astrology is referred to by him as "a certain ape." Dean Thagault of the Paris Faculty of Medicine was treated by him to abuse "in the presence of several scholars and two or three doctors" when he tried to plead with Servetus not to publish his *Apology for Astrology*. His difficulties with the Medical Faculty and the Parlement did not apparently involve basic principles, because what doctor did not then practice astrological medicine or learn it at school? Rather were the hazy limits of what was legal and illegal to blame; but the main cause of the conflict was general irritation with Servetus' attitude. The medical authorities were out to get what they called an "insolent student" and a "charlatan," as they said.

That Servetus was an interesting personality even if often disorganized and untame, emerges quite clearly. The well-documented chapters on his religious conflicts with the Catholic theologians and later with Calvin, offer an interesting insight into the values and logic of another age, into the meaning of blind dogma and its workings in good and bad people, and the sadness and tragedy of persecution. *Hunted Heretic* is a sound and valuable study of many facets of a rebel's career in an age that insisted on being orthodox.

MARK GRAUBARD, Ph.D.

ORE, OYSTEIN. *Cardano, the Gambling Scholar.* Princeton, N. J., Princeton University Press, 1953. xiv, 249 p. illus., ports., $4.00.

Cardano's place in the history of medicine is generally considered firmly established. He ranks with Vesalius in the forefront of physicians during the Renaissance. However, according to Professor Ore he has not received the recognition to which he is entitled as a mathematician, particularly in the field of probability. The author maintains that Cardano was probably the first scholar to expound intelligently on the theory of probability and this about one century prior to Pascal and Fermat who are conceded to have laid the first foundations of the science of probability. The major purpose of this book then is to evaluate Cardano's theories on probability as expressed in his *Liber de*

Ludo Aleae (The Book on Games of Chance), a compendium of the Middle Ages on how to win at cards and dice.

Most of the book is devoted to an exposition of Cardano's life and times and an analysis of the various factors which prompted him to think and do the things he did. To this end the author skims the highlights of Cardano's career as physician and mathematician. Non-mathematicians have nothing to fear in this book since only parts of the last chapter contain any mathematical treatment of Cardano's theories of probability. In this chapter Professor Ore accomplishes his major objective by analyzing the theories propounded in *Liber de Ludo Aleae*, of which a very readable translation from the Latin appears in the appendix.

This book is recommended for those interested in the history of science, particularly mathematics. Professor Ore's facile style and his excellent character study of Cardano add enormously to the interest of the book.

LOUIS P. HELLMAN

THORNTON, JOHN L. *John Abernethy, a Biography*. London, Printed for the Author, distributed by Simpkin Marshall Ltd., 1953. 184 p. illus., port. 25s.

Great teachers are frequently as celebrated by their posterity as the great innovators. In addition, they are sometimes subject to an accretion of legend which results from the reminiscences of their progeny of the lecture room. John Abernethy (1764–1831), the British surgeon, lecturer, and student of John Hunter, has been especially fortunate, or unfortunate, in this respect, for he has acquired a reputation in British medical history of being a prodigious eccentric, which has perhaps obscured his role in the development of British surgery and medical education.

In this first full length biography of Abernethy since that of his student George Macilwain (1797–1882), John L. Thornton has done much to set the record straight and to establish Abernethy's correct role in the history of medicine. Macilwain's biography serves more as a framework for his discursions into ethical and philosophical questions than as an account of the life of his teacher, and is perhaps still worth reading as a reflection of contemporary thought. Thornton, however, in his well documented account of Abernethy's life hews closely to the facts in the case, adding the new material which has appeared since Macilwain's work. He includes as well many of the entertaining anecdotes which have accumulated around the name of the British teacher and surgeon.

It is fitting that this study should have been undertaken by Thornton who is the librarian of St. Bartholomew's Hospital Medical College, which Abernethy did much to establish by his brilliant teaching and where he founded the medical society which now bears his name. He lived in a period in British medical history in which surgery was assuming a new social status and being

established more firmly on the physiological teaching of John Hunter. Abernethy throughout his lifetime was a close follower of Hunter and did much to spread his ideas.

Those who are interested in the development of medical journalism will find in this book a full account of the quarrel between Abernethy and Thomas Wakley (1795–1862), founder and editor of *The Lancet*, on the question of the right to publish medical lectures without the consent of the lecturer. The discussion provides an interesting insight into the medical journalism of the early nineteenth century.

The book is well illustrated and contains a lengthy bibliography of the sources consulted, as well as a chronological list of the writings of Abernethy.

DAVID A. KRONICK

BALASSA, BÉLA. *A Kossuth idök hazafias orvosai* [*The Patriotic Physicians of the Kossuth Era*] München, Karpathia, 1954. 104 p. illus. $2.00.

This short book is a detailed report in Hungarian of the activities and eventual fate of some eight hundred military surgeons who served in the Hungarian Army of the Revolution led by Kossuth in 1848–49. It is written to commemorate the one hundredth anniversary of Kossuth's visit to America, 1851, where he was enthusiastically received. The author is the former acting Consul General of Hungary in New York, now on the staff of a medical library in this country. Related to one of the most famous surgeons of the period, János Balassa, 1814–1868, the author has performed a real labor of love.

A short historical introduction deals with the evolution of Hungarian medicine and its early representatives. The main part of the book describes the organization of the medical services and lists the individual physicians (as far as there is any record) grouped under the headings: wounded, dead, captured, or exiled after the surrender of the Revolutionary Army to the Russians who came in to help Austria. The book goes beyond the revolutionary period tracing the individual lives up to the time of the Reconciliation with Austria and the Amnesty in 1867.

By far the most interesting part is the chapter dealing with the leading physicians of the period which presents short sketches of the lives of: Ignác Stáhly, Ignác Sauer, Ferenc Flór, Sándor Lumniczer, Frigyes Korányi, János Bókai, Lajos Markusovszky, János Balassa, and Ignác Semmelweis.

The book is written in an enthusiastic style extolling the heroism of the individual physicians and a great amount of detail is condensed into a few pages. It was printed in Munich to save on the cost, so the paper, print, and proof-reading are not the best, but in spite of this, it is a very conscientious piece of work. Dr. Claudius F. Mayer wrote the introduction. Dr. Abris Barcsay, former Surgeon-General of the Hungarian Army, now in London, wrote the foreword.

GEORGE L. BANAY, Ph.D.

WORLD HEALTH ORGANIZATION. *World Directory of Medical Schools*. Geneva, World Health Organization, 1953. 220 p. $4.00.

This bilingual (English and French) listing of medical teaching institutions tabulates information in thirteen columns, showing basic facts about each school. The data were collected through questionnaires; but where there were no replies, the information was sought from secondary sources. There is no indication of the sources nor is it shown which of the material was taken from these sources. Apparently no questionnaires were sent to schools in the United States and Canada; instead, the material relating to these schools was taken from the *Journal of the American Medical Association*. The schools are listed alphabetically by countries and then by cities according to their English names.

Many large gaps are obvious at first sight. This points to several possible factors: a lack of cooperation in replying to questionnaires, inefficiency on the part of the compilers, and a lack of this important information on a world-wide scale.

In checking the entries for a few local schools, several errors are evident. The date of founding is described as "the year in which the institution was *founded*." In the instance of the Jefferson Medical College it shows 1838, the year when a separate charter was received, rather than 1825 when classes were first held. In the case of the University of Pennsylvania School of Medicine, it shows the year 1909, when the last change in name took place, rather than 1765 when it was really organized. In other instances, the dates of mergers are given.

A column is provided for Administration to show (1) the auspices under which the school is operated, and (2) the officer responsible for its management. Very few entries show the first part of this information and practically none show the second. For the United States, the governing body is indicated for only three schools. A similar gap appears under the heading Teaching Staff where there are no listings for the schools in the United States. Columns are provided for Total Enrollment and Annual Admissions. In the case of the schools of the United States and Canada the total enrollment is listed erroneously under Annual Admissions. While the column for the language of instruction is generally given, there are no entries for the Canadian schools. This would seem to be a major omission since instruction in two of the eleven schools is in French rather than in English. The listings for the Academic Year, Conditions of Admission, Duration of Studies (Years), Degrees Obtainable, Annual Number of Graduates, and Annual Tuition Fees, are generally more complete and more detailed.

The World Health Organization has undertaken a worthy task in publishing this directory. It is a useful reference source, compiling information not formerly assembled in one volume; however, the field of medical education deserves a more carefully prepared work. It is hoped that in future editions greater care will be exercised in the compilation and editing of the material. It is also hoped

that medical school administrators will respond to the publication's request for cooperation in improving revisions.

ROBERT T. LENTZ

SERVEIN, OSCAR N. *Paying for Medical Care in the United States.* New York, Columbia University Press, 1953. xxiv, 543 p. $7.00.

This volume is a catalog of previous studies of the cost of medical care, plus a compilation of statistical data and descriptive material published during recent years up to 1951. It was prepared under a grant by the Health Information Foundation to Columbia University, where the author is a member of the Department of Statistics of the Graduate School of Business. As stated in the preface, the contractual arrangement did not include the gathering of new data. The responsibility of the research group was to collect, analyze, and evaluate the available facts on medical payments.

The book opens with a summary of general facts regarding the economics of health, incidence of illness, available resources, and the costs of medical care. These are followed by sections dealing with payment for health service, the major portion being devoted to health insurance and governmental programs. There are 237 tables, which will be valuable for students who wish to learn specific facts about medical care.

The author restrains himself from too many conclusions or predictions. On page 56 he states that "the total aggregate cost of illness to the people of the United States is unknown." He estimates, however, that the total costs of medical care, exclusive of loss of income, exceed $10,000,000,000 per year.

Some of the broad classifications are interesting. The costs of medical care are mentioned in three categories: operating expenses for doctors' care, hospitalization, dentistry, public health, etc.; capital expenditures for medical education, scientific research, and construction of hospitals; loss of income due to illness, a problem excluded from the study.

Health insurance plans are classified as those which are closely associated with, and those which are independent of, the suppliers of service. The significance of this contrast is not elaborated except to state that the first type of organization may provide "service" benefits, whereas other organizations can furnish only cash indemnity benefits.

The section on governmental programs brings together material which has appeared in articles, monographs, and books during the past decade.

In brief sections devoted to evaluation and future developments, the author summarizes the strength and weakness of health insurance in America. At least one-half the American people have some form of medical care insurance, but the expenditure by these organizations is only one-sixth of the total amount spent for medical care. He tips his hat slightly to service-benefit programs, in contrast to cash indemnity policies.

The weak points are variations of protection, exclusions and limitations, the

danger that cash indemnities might encourage higher charges, and competition in the sale of medical care insurance.

Where tabulations or quotations of published material appear to be in conflict with each other, the author is careful to impute the responsibility to the original source.

Social workers and administrators must draw their own conclusions and make their own predictions with respect to future medical care in America. One hopes that some day Dr. Serbein will develop some generalizations and offer a more critical appraisal of the present situation.

C. RUFUS REMEM, Ph.D., C.P.A.

BERENS, CONRAD AND L. BENJAMIN SHEPPARD. *Abstracts on Military and Aviation Ophthalmology and Visual Sciences.* Vol. I and II. Washington, D. C., Biological Sciences Foundation, 1953. $12.00.

These reference books comprising abstracted literature on military and aviation ophthalmology through the year 1945 are a valuable source of ready reference to all interested in the ophthalmological aspects of military and aviation medicine. They also provide a background for research workers in this field, as well as serving as a storehouse of historical and factual data. The abstracts are concise and informative. Consulting these volumes should save many man-hours of library search by other investigators, for all phases of ophthalmology are included. The table of contents serves as an excellent subject index, but the inclusion of an author index would be an added feature. Dr. Berens and Dr. Sheppard have made an outstanding contribution to the Armed Service not only of the United States but also of the world.

JOHN R. GRUNWELL, JR., Lt. Col., USAF (MC)

AERO MEDICAL ASSOCIATION. COMMITTEE ON AVIATION TOXICOLOGY. *Aviation Toxicology, An Introduction to the Subject and a Handbook of Data.* New York, Blakiston Co., 1953. 120 p. $4.00.

The prevention of accidents and occupational diseases caused by toxic materials used in aviation is a subject of great concern to all—to the aviation industry, the commercial airline companies, the flying public, and the military air forces, as well as to the aeronautical engineers, the aeromedical scientists, and flight surgeons. Therefore, the Committee on Aviation Toxicology of the Aero Medical Association has made a contribution of great significance to Aviation, Industrial, and Preventive Medicine by the preparation of this useful handbook. For the first time the authors have compiled in one place most of the present knowledge on aviation toxicology, on the myriad factors affecting toxicity of compounds at altitude, and on the data regarding toxicity of the many new materials being introduced in modern aircraft because of rapid technological advances.

This short but valuable book is divided into three parts. It also contains appendices in addition to a list of 75 important references on this subject from recent literature. An index to chemicals discussed in the text is also practical and useful.

Part I on General Features of the Problems of Aviation Toxicology presents a complete analysis of all the new or different problems that must be taken into account when determining toxicity of substances at altitude in contradistinction to toxicity studies in an industrial or other environment on the ground.

Part II on Specific Problems of Aviation Toxicology is a discussion on the practical rather than the theoretical side of aviation toxicity hazards due specifically to antifreezing agents, exhaust gases and smoke, fire extinguishants, hydraulic fluids, propellants, insecticides, and materials transported by planes. True aviation incidents illustrating the toxic hazards of some of these substances add to the practicality and interest of this part.

Part III on Chemicals of Importance in Aviation Toxicology deals with classes of chemical compounds. In addition, information on the toxicity of a great number of individual chemical compounds used in aviation and in planes is provided in Appendix III. The data on toxicity of chemicals as presented in Part III and Appendix III differ from the presentation of such data in standard texts on industrial hygiene and toxicology in that emphasis is placed on the effects of altitude and other aviation factors in modifying toxicities of the particular compounds discussed. Part III, then, along with Appendix III is most valuable as a reference for brief summaries of information on the toxic hazards in aviation associated with particular chemicals and classes of chemicals. Naturally, this part is not as readable as Parts I or II, although much important specific information is detailed. In fact, Part II makes the most interesting reading of the three parts of this brief but important new book.

To conclude, Appendix I lists Time–Concentration Curves of Toxicity for various materials, while Appendix II concerns calculations necessary to determine concentration of carboxyhemoglobin in the blood stream at high altitude. Both these appendices are important mainly from the standpoint of showing present gaps in our knowledge of aviation toxicology as well as the direction that future work should take for the solution of aviation toxicology problems.

JOHN RIZZOLO, Lt. Col., USAF (MC)

LUCAS, G. H. *The Symptoms and Treatment of Acute Poisoning.* N. Y., Macmillan Co., 1953. xii, 308 p. $4.00.

In this pocket-size book the author tries to provide up-to-date information on the symptoms and treatment of acute poisoning from most of the drugs and chemicals met with in medical practice. The book is so designed that not only the physician and medical student will find detailed information as to diagnosis

and treatment, but that also the pharmacist, nurse, and even the layman may find sufficient information for emergency treatment of acute poisoning. After short chapters on general considerations for the treatment of poisoning and a list of the necessary supplies and apparatus, the author discusses in the third chapter the use of emetics and gastric lavage, and in additional chapters the treatment of poisoning in children, the collection and preservation of samples for determination of the toxic agent, and some drugs and preparations which he considers useful in the treatment of poisoning. The major part of the book (207 pages) consists of an enumeration of poisoning from various drugs, chemicals, domestic solvents, cleaning agents, insecticides, and cosmetic preparations as may be encountered in general practice. The material is arranged alphabetically, but at times chemicals of similar action are grouped together so that the alphabetical listing is not the absolute rule. The location of the various toxic agents is, however, facilitated by a very complete subject index. The description of the signs and symptoms of different poisoning is in most instances very short and strictly restricted to acute poisoning, even in such instances where the chronic forms are of greater importance, as in case of benzene and lead poisoning; these forms are not covered. In other instances, as in discussion of petroleum distillates, which covers also gasoline and kerosene, the frequent pulmonary complications are not mentioned. Similarly in the discussion of hydrogen sulfide poisoning the signs and symptoms of less severe poisoning and the pulmonary complications are not discussed. In some instances, as with "benzene-toluene-xylene" and with "tetrachloroethane-di- and trichloroethylene," chemicals are grouped and discussed together which differ vastly in some respects. Although it is obviously not possible to support the statements in a book of this kind by many references, it would appear desirable to refer the reader at least to a few publications for additional and more detailed information.

The book is well bound and printed very clearly on good paper, and should prove helpful in emergencies.

W. F. VON OETTINGEN, M.D.

HOYLES, J. ARTHUR. *The Treatment of the Young Delinquent.* New York, Philosophical Library, 1952. viii, 273 p. $4.75.

The scientific researcher in delinquency, its causes, therapy, and prophylaxis, will find little new in this popularly written book by an English clergyman. But he will, nonetheless, find various rewarding passages in a skillful attempt to harmonize dynamic psychology and Christian theology; and he will be impressed with the sincerity and dedication of its author. The book should be helpful to lay and religious groups, and especially to clergymen who work with delinquents and criminals.

The author's outlook and aim are reflected in the following passage:

> The present situation presents a challenge to the Church . . . Unfortunately the Church

has never been able to put forward an agreed policy on the question of the treatment of offenders. Discussions on the subject usually resolve themselves into a somewhat naive pleading on the one hand for leniency and on the other hand for severity. . . Research and experiment have provided a new technique for the handling of anti-social persons. The time is ripe, therefore, for a careful examination of the lessons of history and the findings of modern science in the light of Christian principles. The result of this survey is an appreciation of the methods now being employed in the more advanced of our Juvenile Courts, and a confident declaration that there is an alternative to punishment. (vi)

In developing the thesis that there is an alternative to punishment, the author's discussions are persuasive; but he says too little on modern methods of treatment and on the more recent researches into causation; and his faith in the juvenile court is rather naive. (See Glueck, S. and E. T., *1,000 Juvenile Delinquents*. Cambridge, Harvard University Press, 1934.) Nor is the author aware of the great significance of the prediction researches that have been made in the United States. In the forecasting of probable future delinguency on the part of young children and in the development of predictive techniques as a basis for more scientific sentencing practices and paroling procedures, a path has been blazed that gives great promise of developing criminology into something resembling a science. While referring to the pioneering researches of Healy and Bronner, the author shows little acquaintance with the path-blazing researches of other American investigators.

But in a series of engagingly written chapters subsumed under the general rubrics of Guilt, Punishment, and Redemption, and bearing such colorful titles as Stolen Fruit, Hidden Motives, Tit for Tat, Holy Terror, Refining Fire, Spare the Rod, A New Leaf, Birds in a Cage, My Brother's Keeper, etc., he persuasively presents the case for an ethical, humane and at the same time scientific, management of the problems of crime and correction. Such a statement as the following, for example, reflects a penetrating and humane insight into criminalism: "An act of delinquency signifies a wound in the social organism and should be a matter of concern to every citizen. The moral failure of an individual is the moral failure of the whole community." (p. 232)

Throughout, the author draws into the discussion of a modern point of view, ancient theologic insights. Thus, as a prelude to consideration of Freud and the views of modern psychology on "hidden motives," he says: "Special metaphors may be misleading, but at least the theological stress on the 'inner' as distinct from the 'outer' aspects of crime serves to illustrate the truth that a criminal act is a symptom of a criminal mind." (p. 57) And, in connection with mental conflict, "The other expression of the idea of an 'inner' conflict is Paul's account of the 'flesh' warring against the 'spirit' . . . 'For the flesh lusteth against the Spirit, and the Spirit against the flesh; for these are contrary the one to the other'." (p. 58, 59)

But the author uneasily rides two horses: he recognizes the force of biologic and sociocultural pressures, but he insists also on individual responsibility. At various places, he is at pains to emphasize that neither environmental stresses

nor the characteristics of the "lower nature" are "a sufficient excuse for delinquent conduct . . . To approach delinquency from a psychological standpoint does not abolish the necessity for regarding crime as fundamentally a moral question. The Christian and the psychologist have common ground by virtue of the fact that they go beyond the legal definitions of deliquency, and they both recognize that physical and mental ailments as well as misconduct may be symptoms of an 'inner' conflict." (p. 59) But, nevertheless, "If misconduct is to be interpreted in terms of repression and unconscious motives, and if children are what their parents make them, what becomes of the ecclesiastical conception of sin as the free choice of wrong-doing in preference to right conduct? The Christian conscience is not happy in an exclusively psychological interpretation of deliquency." (p. 77–78) The author comforts himself with the belief that "the scientific method is unable to penetrate that area of the human personality in which alternative choices are weighed." (p. 79) He concludes that "Christianity accepts a large amount of determinism . . . but, by the same token . . . recognizes freedom." (p. 79–80)

The author's insistence on freedom of will and moral responsibility based thereon does not, however, prevent him from criticizing the retributive aim of the criminal law: "To determine the degree of wickedness involved in a particular offence is a sheer impossibility. We have as yet no means of measuring guilt." (p. 94) Nor does his insistence upon freedom of will interfere with his view that the therapeutic approach is the sound one: "That a criminal is to be regarded as a 'sick' person and that expert treatment rather than punishment is the appropriate method of combating crime are propositions that are no longer either amusing or shocking." (p. 173) But he immediately adds, "The Christian is naturally suspicious of any attempt to undermine the seriousness of moral offences . . . The modern tendency to solve the problem of sin by saying there is no such thing gives some ground for apprehension. The notion of 'treatment' suggests that crime is nothing more than a disease like measles, that no blame attaches to the wrong-doer, and that deliberate wickedness does not exist. The Christian conscience cannot rest in a denial of moral responsibility, and it is doubtful if the involuntary nature of a criminal act will ever be capable of proof." (p. 175)

In theory, there seems no way out of the ancient dilemma posed by the clergy in contemplating crime. It may be helpful if, instead of asking in general whether Man possesses Freedom of Will, an individualizing approach were used in this field as in considering intellectual capacity, or emotional health. Capacity for purposive self-direction (and this is a realistic conception of "freedom of will") varies among individuals as do other endowments. It is the function of the teacher and therapist to remove as many of the biologic and social handicaps in the individual case as possible, thereby releasing the quantum of "freedom" that that person is capable of. Thus, individual responsibility

is saved, to the extent of the individual's capacity. But the problem of sin, blameworthiness, and retribution can hardly be coped with practically by mundane officials and devices; and it had better be left to the infinite wisdom of God. What human beings can do is to cope intelligently with those areas of the human organism that are susceptible to the limited capacities of human beings and man-made science. This reviewer is convinced that the only rational and promising approach to the problems of delinquency and crime is to regard them as reflective of personality, characterial, and societal disorders; to proceed on a theory of multiple biosocial causation; to multiply greatly child guidance clinics and parental guidance centers, in order to fortify the growing generations with the equipment of mental hygiene; to transform our prisons and reformatories into therapeutic establishments; to substitute technically skilled personnel, employing the constantly expanding resources of medicine, psychiatry, sociology, cultural anthropology, and social case-work, for the existing untrained personnel and punitive-deteriorative techniques.

SHELDON GLUECK, Ph.D.

BURLINGHAM, DOROTHY. *Twins: A Study of Three Cases of Identical Twins.* N. Y., International Universities Press, c1952. x, 94 p. illus. $7.50.

This is a nursery study of three pairs of identical twins whose ages vary from four months to four years. The book is an observation and diary of these children, their environmental influence, and the constitutional characteristics of each. The study is taken up in chapters with emphasis on I. The Fantasy of Having Twins, II. Environmental Influence, III. Beginning of Twin Relationship, IV. Twins as a Team, V. Reaction to Separation, VI. Overcoming of Jealousy, and VII. Relationship to the Parents and to the Other Twin. These chapters are followed by charts showing the activities and responses of each pair of twins from time to time.

This material may be of some help to a psychologist in a study of development of twins, but it is difficult reading. This reviewer, being a twin, found little that was interesting in the study. It is doubtful if the parents of twins are "bewildered" and that their relationship is "less warm and spontaneous" than for other children. I have never seen twins who had "dissocial development." All twins that I have seen seem better integrated than the average and had normal, average parent relationship.

NICHOLAS GOTTEN, M.D.

Obituaries

Marion Dondale

An Appreciation

To one who for twelve years came into almost daily contact with Marion Dondale as a co-worker in the Albany Medical College Library, she seemed simple and direct, yet, at the same time, complex and withdrawn. This impression was derived from her characteristics of humility and diffidence. Humility she wore quietly, as a habit; diffidence she discarded on occasion, for she possessed courage that transcended her personal needs and wishes. Only as one slowly grew to know her, did one become aware of her talents and her humor, of her kindness, tolerance, and generosity.

She was devoted to music and had a good voice, but did not sing in the library. She listened to symphony concerts on the radio, and debated for years about buying a record-player, but never owned one. She particularly liked the Boston Symphony Orchestra's recording of *Harold in Italy*. Mornings, after chamber music concerts in Albany, or orchestral evenings at Tanglewood, we discussed the performers and their programs. Faculty and students entered into what sometimes became hilarious or heated arguments. These always ended on a friendly note with participants looking forward to the next one.

Marion thought of the library as the social and intellectual center of the school, and looked forward, when space should permit, to having a coffee-break there in the afternoons. She enjoyed administrative work, but sometimes regretted that it withdrew her more than she might have wished from personal contact with library users. However, many patrons sought her out to chat about their problems, and she did much editing and proof reading for members of the college staff.

As with music, so with writing was she a perfectionist. She sometimes called to mind Sentimental Tommy struggling for the exact word. Her prize would be the satisfaction of knowing that her letters and her casual notes were informative and a pleasure to read. Similar care she used also on the customary postcards sent to friends when she was on vacation.

The Reverend Mr. Loren Gavitt, Marion's pastor, recalls that she read manuscript, galley, and page proof for St. Augustine's Prayer Book, which he and the Reverend Mr. Archie Drake edited, to such good effect that only one small error escaped into print. The book is now in its seventh printing.

Marion's religious belief was deep and unobtrusive. She gave much time to work in her church where she taught a class of devoted teen-agers upon whom her faith and fair-mindedness had a perceptible though not readily describable

influence. This class she sponsored after her return from a year as a novice in a religious order. At the end of that time, she believed her vocation lay outside the cloister, and that her health would not permit following its rigorous rule. But she did not break ties with the sisters. She visited them when she could, sent them magazines, supported their charities, and spoke of how they had helped her develop her talent for illuminating manuscripts and her interest in plain song.

Marion's library, now distributed among her friends, testified to her conviction that knowledge casts out fear and to her diversity of intellectual interests. These ranged from Chinese folklore through current history, politics, economics, and philosophy. She also liked *whodunits*, and once made a collection of those whose settings are in libraries.

Books she gave and received with joy. She delighted in reading aloud to friends and to her god-children. Many remember her chuckles over some of Angela Thirkell's characters, her zest when reading about Mary Poppins, and how the maxim of one of the cats in Paul Gallico's *The Abandoned*, "When in doubt, Wash!" became a favorite saying.

Although Marion's entry into the field of medical librarianship was somewhat a matter of chance, her interest in the work was deeply rooted and she felt that she had found her proper vocation. Hence, she overcame her essential reticence enough to assume active roles in the affairs of the Medical Library Association.

In speaking of the risk to her life that the additional work might entail, she said that she preferred to use her strength creatively, if she could, rather than merely to conserve it. Fortunately, she lived to see her term as President of the Association completed in one of the best, most largly attended meetings, and to know that the participants greatly appreciated her efforts.

Her death has bereft many who will miss her gallant spirit, but it spared her a helpless invalidism. For that we should rejoice.

HELEN A. FRASER

HOWARD DITTRICK, M.D.

1877–1954

Dr. Howard Dittrick, founder and director of the Howard Dittrick Museum of Historical Medicine of the Cleveland Medical Library, died at the Cleveland Clinic Hospital July 11, 1954, after a brief illness. His passing will be missed by many colleagues in the fields of medicine, medical literature, medical history, museum administration, and library administration.

Dr. Dittrick was born February 14, 1877, in St. Catherines, Ontario, where he spent his early life and received his early education. He received the degree of bachelor of medicine from the University of Toronto in 1900 and doctor of medicine in 1927. In 1900 he came to Cleveland, to Lakeside Hospital where he

spent five years as interne and resident in gynecology. He did graduate work in Johns Hopkins Hospital, and practiced in Cleveland until he retired from practice in 1943. In that year he joined the staff of the Cleveland Clinic as Director of the Department of Education, Director of Publications, and Professor of the History of Medicine of the Frank E. Bunts Institute, positions he held until he retired in 1947.

At the time of his death Dr. Dittrick had been Editor of *Current Researches in Anesthesia and Analgesia* since 1940. He had been Editor and later Advisory Editor of the *Bulletin of the Cleveland Academy of Medicine.* He was the editor of *Pioneer Medicine in the Western Reserve* and the author of numerous articles on medical history and culture.

He founded the Medical Museum of the Cleveland Medical Library in 1926. The name was changed by the Trustees to the Howard Dittrick Museum of Historical Medicine in 1940 in recognition of his outstanding contribution, made in partnership with his wife, to the Cleveland Medical Library and to medical history.

Dr. Dittrick was a delegate of the American Association of the History of Medicine and was chosen to represent the United States Government at the International Congresses of History of Medicine in Madrid in 1935 and in Zagreb in 1938. On both missions, Mrs. Dittrick accompanied him.

Elected a Trustee of the Cleveland Medical Library in 1927, Dr. Dittrick served until he died, being President in 1944–45. He was an Honorary Consultant to the Army Medical Library, Honorary Vice-President of the Medical Library Association in 1947; he joined the Board of Trustees of the Cleveland Health Museum in 1944, and was Chairman of the Intermuseum Council (of Cleveland) in 1952 and served in this position until his death. It is small wonder that he received the Distinguished Service Award of the Cleveland Academy of Medicine in 1944.

A simple recitation of his positions, activities, accomplishments, and honors makes no mention of his outstanding qualities which endeared him to countless friends and associates, his friendliness, his helpfulness, his enthusiasm, his idealism, his modesty, his devotion to principles, his love of things old, historical, medical, and quaint, his appreciation of association items and his love of teaching, transmitting his thoughts, arousing enthusiasm, and guiding the interest of his younger associates. Doctors, authors, historians, collectors everywhere have lost a true and valiant friend who is irreplacable.

ROBERT M. STECHER, M.D.

MURRAY GOTTLIEB STRICKEN SUDDENLY

Mr. Murray Gottlieb of the Old Hickory Bookshop, New York City, died suddenly of a cerebral hemorrhage on July 16, 1954. Known to many members of the Medical Library Association for his knowledge of rare medical works,

especially Americana, he had also endeared himself because of his kindness and generosity to medical librarians. For the past few years, he and his wife, as sustaining members of the Association, had attended the annual meetings, where a group of librarians could always be found talking or enjoying themselves over a drink with the Gottliebs. His interest in the relationship between book-dealers and librarians was shown in the article he published on that subject in the 1953 BULLETIN.

The librarian entering the rare book field quickly learns the importance of a pleasant relationship with the dealers in his field. It has been traditional since the time of Henry Stevens of Vermont that the dealer be a mentor, a guide, a friend. No one exemplified this tradition more than Murray Gottlieb of the Old Hickory Bookshop. To him selling books was not a business but a way of life. It was his pleasure to be able to give advice and encouragement. It was his aim not to get the highest price for a book but to see it go into the collection it would most fittingly grace. There were also moments of temptation when he could not bear to part with certain volumes and brought them home to his own library shelves. His sudden death is a loss to medical librarians and medical libraries. Many members of this Association knew him well; many others only through the informative Old Hickory catalogs. Our sympathy goes to Mrs. Gottlieb and our gratitude that she plans to continue the work she did so long in close association with her husband.

GERTRUDE ANNAN AND ESTELLE BRODMAN

HILDA M. RANKIN PASSES AWAY

On July 15, 1954, Miss Hilda Margaret Rankin, 61, librarian of the University of Michigan School of Dentistry for 15 years, died at Chatham, Ont., Canada.

CONSTANTIN LEVADITI DIES

In the Spring, Constantin Levaditi, French bacteriologist and clinician, died in France. The name of Dr. Constantin Levaditi would be honored if for no other contribution than his revolutionary treatment of syphilis with bismuth salts; his simplification of the Wasserman reaction; his remarkable studies in poliomyelitis, encephalitis, herpes, rabies.

The unquestioned dean of the French school of bacteriology, Levaditi in his recent years of intimate association with the Pasteur Institute devoted himself increasingly to studies of the newer antibiotics—penicillin, streptomycin, bacitracin, subtilin, polymyxin, Aureomycin, chloramphenicol and Terramycin.

His very last contribution—a monograph on Terramycin, one of the most authorative reviews on the subject to date—was completed shortly before his death.

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